

MONOGRAPH OF THE AUSTRALIAN *CICADIDÆ*.

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(Plates xviii.-xix.)

INTRODUCTION.

Though several of our large cicadas were among the first insects collected and forwarded to England in the early part of the last century, yet, so far as Australian entomologists are concerned, this family has been one of the least noticed, not a single species having been locally described, and very few even identified in our Museum collections. Yet they are one of the most typical groups of our insect fauna, and no sound is more likely to attract the attention of a traveller landing in Sydney in the summer than the incessant trill of the common green cicada. The original descriptions of our species are scattered through the Proceedings and Transactions of English and Foreign Scientific Societies, Voyages, Memoirs and books, some of which are rare and difficult to obtain; so that the authors think that the bringing together of all the known species, and the descriptions of all the new ones obtained during the progress of their work, will be of some value to future workers in the Homoptera. The descriptions have been made as brief as possible, previous ones amplified or amended after a study of the specimens, rendered necessary where a series of a more or less variable species were under consideration, when both colour and size were often found to vary considerably. The ample material in hand has also rendered it possible to give the exact locality and range of many species, which up to the present have been simply recorded from Australia or New Holland.

In following out the range of the different species the authors have been struck with the fact that though many are strictly confined to the coastal parts of Eastern Australia, others are

found extending over a very large area, reappearing in widely separated districts if the class of country they frequent is similar. Thus *Tibicen willsi*, described by Distant from the neighbourhood of Rockhampton (from which we also have received it), is found at Bourke, N.S.W., ranging up the Queensland Coast to Townsville, and reappearing at King's Sound on the North-west Coast of Australia. *Melampsalta annulata* ranges from the western towns of Wagga and Narromine, N. S. Wales, to Townsville, N. Queensland. The appearance of members of the genera *Gæana* and *Huechys* is interesting as showing the relation of our forms with those of the Indo-Malay region.

This paper contains descriptions of all of the *Cicadidæ* known to us to inhabit Australia, numbering 119 species included in 21 genera. The greater number are in the various collections here; but a few are unknown to us, although most of the types are still preserved. In the National Museum, Melbourne, are several of Walker's species determined by him; these, however, are of little value because the same name is given to distinct species.

Owing to the great number of species in the genus *Melampsalta*, we have separated the new genus *Pauropsalta*, from which it differs principally in the presence of five apical areas in the wings, there being six in the old genus. Eventually those species having the ulnar veins distinct, but contiguous, must be separated from each genus, while another good generic character is the presence of a spine above and just before the apex of the anal appendage.

Our best thanks are due to Messrs. J. A. Kershaw, of the National Museum, Melbourne; C. French, Government Entomologist, Melbourne; J. G. O. Tepper, Entomologist, Adelaide Museum; Henry Tryon, Government Entomologist, Brisbane; George Masters, Curator, Macleay Museum, Sydney; A. Simson, Launceston; R. Illidge, Brisbane; C. W. De Vis, Brisbane Museum; and A. M. Lea, Government Entomologist, Hobart, for the loan or gift of material, and other courtesies.

Our collection, containing many of our types, is temporarily deposited in the Macleay Museum, Sydney.

Species preceded by an asterisk (*) have been examined by us.

HOMOPTERA.

Wings of the same thickness throughout, and usually sloping at sides of body; rostrum arising from posterior part of head below; destitute of a neck, the first pair of coxæ articulating with cheeks.

TABLE OF THE FAMILIES.

- 1 (8). Rostrum apparently arising from the sternum, or absent; tarsi one- or two-jointed; antennæ usually prominent and filiform, sometimes absent.
- 2 (3). Tarsi one-jointed; adult male destitute of a rostrum; with two wings; female wingless, body scale-like or gall-like in form, or grub-like, and clothed with wax. The waxy covering may be in the form of powder, of large tufts or plates, of a continuous layer, or of a thin scale beneath which the insect lives..... COCCIDÆ.
- 3 (2). Tarsi usually two-jointed; wings, when present, four in number.
- 4 (5). Wings opaque, whitish; wings and body covered with a whitish powder..... .. ALEYRODIDÆ.
- 5 (4). Wings transparent.
- 6 (7). Legs long, slender; antennæ three- to seven-jointed.... APHIDIDÆ.
- 7 (6). Hind legs fitted for leaping; antennæ nine- or ten-jointed..... .. PSYLLIDÆ.
- 8 (1). Rostrum evidently arising from the mentum; tarsi three-jointed; antennæ minute, setiform.
- 9 (10). Three ocelli; males with musical organs..... CICADIDÆ.
- 10 (9). Two ocelli, or absent; males destitute of musical organs.
- 11 (12). Antennæ inserted on sides of cheeks beneath eyes... .. FULGORIDÆ.
- 12 (11). Antennæ inserted in front of and between eyes.
- 13 (14). Pronotum prolonged in a horn above abdomen. MEMBRACIDÆ.
- 14 (13). Pronotum not prolonged above abdomen.
- 15 (16). Hind tibiæ armed with one or two stout teeth, and tip crowned with short, stout spines..... CERCOPIDÆ.
- 16 (15). Hind tibiæ with a double row of spines below..... JASSIDÆ.

Family CICADIDÆ.

Head with three ocelli, placed on the disc of the vertex. Disc of the pronotum very large, with a circumscribed impression, and two oblique longitudinal impressions on each side, sometimes occupying a large portion of the thorax. The scutellum is broad,

large, little exposed. The tegmina each have one basal area, from which pass out one or two ulnar veins, and one radial vein, the branches forming the various areas, there normally being three discoidal, two ulnar, one radial (or costal), and eight apical areas, and the clavus, which is very narrow. The front coxæ are oblong, prismatic, inserted in the front angles of the prosternum; the middle and posterior are longer, subconical, subcontiguous, remote from the sides of the body. The front femora are thickened, frequently spined below. The tibiæ are smooth. The tarsi are composed of two or three articles, with no arolium. The base of the abdomen in the male is furnished with two sound organs, which are attached to the tympanum.

SYNOPSIS OF SUBFAMILIES.

- 1 (2). Front edge of basal abdominal segment, on each side, produced forward in a leaf-like expansion, which more or less covers the sound organs..... *Cicadinæ*.
 2 (1). Front edge of basal abdominal segment straight, not produced forward; sound organs entirely uncovered..... *Tibiceninæ*.

CHECK LIST.

Subfamily CICADINÆ.

- | | |
|---------------------------------|-----------------------------------|
| Gen. PLATYPLEURA, Am. & Serv. | Gen. CICADA, Linn. |
| 1. <i>Tepperi</i> , G. & F. | 1. <i>angularis</i> , Germ. |
| Gen. CYCLOCHILA, Am. & Serv. | 2. <i>sylvana</i> , Dist. |
| 1. <i>australasiae</i> , Donov. | 3. <i>hieroglyphica</i> , G. & F. |
| <i>olivacea</i> , Germ. | 4. <i>sylvanella</i> , G. & F. |
| <i>australis</i> , Leach. | 5. <i>extrema</i> , Dist. |
| Gen. THOPHA, Am. & Serv. | 6. <i>intersecta</i> , Walk. |
| 1. <i>saccata</i> , Fabr. | <i>internata</i> , Walk. |
| 2. <i>sessiliba</i> , Dist. | <i>prasina</i> , Walk. |
| Gen. HENICOPSALTRIA, Stål. | Gen. PSALTODA, Stål. |
| 1. <i>eydouxii</i> , Guér. | 1. <i>mærens</i> , Germ. |
| 2. <i>perulata</i> , Guér. | 2. <i>aurora</i> , Dist. |
| 3. <i>interclusa</i> , Walk. | 3. <i>flavescens</i> , Dist. |
| 4. <i>fullo</i> , Walk. | 4. <i>pictibasis</i> , Walk. |
| 5. <i>nubivena</i> , Walk. | 5. <i>plebeia</i> , G. & F. |

Gen. PSALTODA, Stål.

6. *argentata*, Germ.plaga, *Walk.*7. *harrisii*, Leach.dichroa, *Boisd.*subguttata, *Walk.*

Gen. CRYPTOTYPANA, Stål.

1. *nigra*, Stoll.pustulata, *Fabr.*atrata, *Fabr.*atra, *Sign.*

Gen. TYMPANOTERPES, Stål.

1. *hilaris*, Germ.subtincta, *Walk.*albiflos, *Walk.*tomentosa, *Walk.*

Gen. TETTIGIA, Kol.

1. *tristigma*, Germ.2. *variegata*, G. & F.

Subfamily TIBICENINÆ.

Gen. VENUSTRIA, G. & F.

1. *superba*, G. & F.

Gen. TIBICEN, Latr.

1. *curvicosta*, Germ.tephrogaster, *Boisd.*2. *ruber*, G. & F.3. *melanopygius*, Germ.4. *interruptus*, *Walk.*5. *doddi*, G. & F.6. *rubricinctus*, G. & F.7. *borealis*, G. & F.8. *gilmorei*, *Dist.*9. *kurandæ*, G. & F.10. *auratus*, *Walk.*11. *hirsutus*, G. & F.12. *coleopratus*, *Walk.*13. *occidentalis*, G. & F.14. *willsi*, *Dist.*15. *burkei*, *Dist.*16. *flavus*, G. & F.17. *gregoryi*, *Dist.*18. *muelleri*, *Dist.*19. *infans*, *Walk.*

Gen. GÆANA, Am. & Serv.

1. *maculatus*, *Serv.*consors, *White.*

Gen. HUECHYS, Am. & Serv.

1. *vidua*, *White.*

Gen. PAUROPALTA, G. & F.

1. *leurensis*, G. & F.2. *castanea*, G. & F.3. *prolongata*, G. & F.4. *extensa*, G. & F.5. *extrema*, *Dist.*6. *nigristriga*, G. & F.7. *annulata*, G. & F.8. *nodicosta*, G. & F.9. *dubia*, G. & F.10. *encaustica*, *Germ.*juvenis, *Walk.*dolens, *Walk.*11. *mneme*, *Walk.*12. *multifascia*, *Walk.*singula, *Walk.*obscurior, *Walk.*arclus, *Walk.*

Gen. PAUOPSALTA.

13. *incipiens*, Walk.14. *rubra*, G. & F.15. *leichardti*, Dist.16. *basalis*, G. & F.17. *puer*, Walk.18. *emma*, G. & F.19. *borealis*, G. & F.20. *sericeivitta*, Walk.21. *minima*, G. & F.

Gen. MELAMPSALTA, Kol.

1. *torrida*, Erich. *basiflamma*, Walk. *connexa*, Walk. *damater*, Walk.2. *umbrimargo*, Walk.3. *convergens*, Walk.4. *labeculata*, Dist.5. *interstans*, Walk.6. *abdominalis*, Dist.7. *spinosa*, G. & F.8. *kershawi*, G. & F.9. *denisoni*, Dist.10. *castanea*, G. & F.11. *rubristrigata*, G. & F.12. *atrata*, G. & F.13. *varians*, Germ.14. *landsboroughi*, Dist.15. *fletcheri*, G. & F.16. *infusata*, G. & F.17. *flava*, G. & F.18. *oldfieldi*, Dist.19. *telxiope*, Walk. *duplex*, Walk. *arche*, Walk.20. *binotata*, G. & F.21. *angusta*, Walk. *bilinea*, Walk. *rosea*, Walk.22. *rubricincta*, G. & F.23. *quadricincta*, Walk.24. *marginata*, Leach.25. *labyrinthica*, Walk.26. *nebulosa*, G. & F.27. *spretta*, G. & F.28. *fulva*, G. & F.29. *melete*, Walk.30. *abbreviata*, Walk.31. *aaede*, Walk.32. *latoarea*, Walk.33. *incepta*, Walk.34. *rubea*, G. & F.35. *forresti*, Dist.36. *mackinlayi*, Walk.37. *tristrigata*, G. & F.38. *warburtoni*, Dist.39. *graminis*, G. & F.40. *eyrei*, Dist.41. *oxleyi*, Dist.

Gen. KANAKIA, Dist.

1. *congrua*, G. & F.

Gen. GLAUCOCYSTA, G. & F.

1. *viridis*, G. & F.

Gen. CHLOROCYSTA, Westw.

1. *vitripennis*, Westw.2. *macrula*, Stal.

Gen. CYSTOPSALTRIA, G. & F.

1. *immaculata*, G. & F.

Gen. CYSTOSOMA, Westw.

1. *saundersii*, Westw.2. *schmeltzi*, Dist.

Gen. TETTIGARCTA, White.

1. *tomentosa*, White.2. *crinita*, Dist.

SYNOPSIS OF THE GENERA OF THE SUBFAMILY CICADINÆ.

- 1 (4). Lateral borders of pronotum dilated, horizontal, front angles directed toward middle of eyes.
- 2 (3). Anterior border of head almost straight, base of front barely evident; tegmina and wings sometimes opaque and coloured... .. PLATYPLEURA.
- 3 (2). Anterior border of head very strongly and triangularly produced forward; tegmina and wings colourless... .. CYCLOCHILA.
- 4 (1). Lateral borders of pronotum convex, front angles directed below eyes; tegmina and wings sometimes partly coloured.
- 5(16). Postcostal marginal space of tegmina linear, not broadened towards apex.
- 6 (7). Front angles of pronotum covered by lateral parts of head, not prominent; head broader than front of thorax, front very convex; sides of abdomen parallel to beyond middle... .. PSALTODA.
- 7 (6). Front angles of pronotum not covered by lateral parts of head, frequently distinctly prominent.
- 8(15). Basal area of tegmina somewhat, rarely twice, longer than wide; tympanum wholly covered.
- 9(10). Metasternum elevated at middle and furnished with a process directed posteriorly..... .. CRYPTOTYPANA.
- 10 (9). Metasternum little elevated, destitute of a posterior process.
- 11(12). Apex of clypeus truncated, or subsinuately truncated..... .. CICADA.
- 12(11). Apex of clypeus acuminate; tympanal coverings frequently developed into enormous sacs.
- 13(14). Pronotum somewhat broadened forward, or sides parallel; head and front of thorax equal in breadth; ocelli four times more distant from eyes than from each other; opercula short, transverse. THOPHA.
- 14(13). Pronotum narrowed forward, narrower than head; ocelli two, sometimes three times more distant from eyes than from each other; opercula medium HENICOPSALTRIA.
- 15 (8). Basal area of tegmina twice longer than broad; part of tympanum uncovered; apex of clypeus subacuminate, or a little rounded..... .. TETTIGIA.
- 16 (5). Postcostal marginal space a little broadened towards apex; lateral margins of pronotum somewhat flattened..... .. TYMPANOTERPES.

Genus *PLATYPLEURA*, Am. et Serv.

1843. Hémip. p. 465.

(*Oxypleura*, Am. & Serv., Hémip. p. 469).

1866. Stål, Hemip. Afric. iv. pp. 2 & 9.

Head not or barely the width of scutellum, rarely narrower; ocelli rarely a little more than double the distance from the eyes than from each other. *Pronotum* with sides much flattened out horizontally, foliaceous; front angles directed towards the middle of the eyes; front margin sinuate behind eyes; posterior border broad. *Tegmina* with basal area broad; ulnar veins distant at base; interior ulnar area broadened towards apex. Wings with six apical areas. Opercula medium, transverse, apex rounded, slightly overlapping. Front femora spined below.

Type, *Cicada stridula*, Linn.

**PLATYPLEURA TEPPERI*, sp.nov. (Plate xviii., figs. 5-5a).

Sordid yellow mottled with ferruginous. *Head* broad, sordid yellow, much narrower than middle of pronotum; short, twice broader than long, anterior border lightly convex; a spot occupied by ocelli, a narrow stripe on each side, two spots on base of front united by a curved line, ferruginous; eyes small, lightly inclined backward; vertex equal in breadth to combined diameter on both eyes, ocelli twice the distance from eyes as from each other; front convex, not prominent, ferruginous, sides of face fuscous, a ferruginous band across base; rostrum sordid yellow, tip black, reaching apical border of penultimate ventral segment of abdomen. *Pronotum* sordid yellow; short, broad, deeply furrowed; front border convex; a spot on middle of front, and furrows fuscous-ferruginous; lateral borders entire, broadly flattened out and very convex horizontally; hind border broad, posterior angles not evident. *Mesonotum* convex, sordid yellow, irregular obsolete spots in front and at sides of cruciform elevation, fuscous-ferruginous. *Tegmina* opaque, passing tip of abdomen by one-half their length, sordid yellow, marbled with ferruginous, a row of similar coloured spots along front border; interior ulnar area and

clavus marked with ferruginous only near base. Wings opaque, sordid yellow, with a broad pale ferruginous band around apical border. *Abdomen* sordid yellow, as long as head and chest, broadly and irregularly banded with fuscous. *Body* below sordid yellow; chest variegated with ferruginous; abdomen broadly fuscous, variegated; anal appendage covered with long hairs. Opercula semicircular, covering one-third of abdomen, overlapping, lateral borders projecting beyond sides of abdomen; posterior border broadly rounded; sordid yellow, clouded with ferruginous. Legs concolorous, very hairy, front femora and four hind knees fuscous. Long. corp. 25 mm.; lat. thor. 7 mm.; exp. teg. 80 mm.

Hab.—Northern Territory, Australia; described from three examples collected by Mr. J. G. Tepper. Types in Coll. G. & F., and South Australian Museum.

Similar to *P. guttulata*, Sign. It differs in the position of the ocelli, markings of the tegmina and wings, and much longer rostrum.

Genus CYCLOCHILA, Am. et Serv.

1843. Hémip. p. 470.

1866. Stål, Hemip. Afric. iv. p. 3.

Head with the front strongly convex, prominently produced forward, destitute of a median longitudinal sulcus. Sides of *pronotum* dilated, the flattened-out portion nearly horizontal; front angles directed toward the middle of the eyes. Sound organs not wholly covered. *Tegmina* vitreous, the basal area irregularly 4- or 5-angled, broad; ulnar veins distant at base, costa and radial vein distant; eight apical areas. Wings vitreous, with six apical areas. Front femora spined below.

Type, *Tettigonia australasie*, Donovan.

*CYCLOCHILA AUSTRALASIE, DONOV.

1805. *Tettigonia* id., Ins. New Holl., Hemip. pl. 2, fig. 1.

1830. *Cicada olivacea*, Germ., Thon. Ent. Arch. ii. p. 2.

1834. *Cicada olivacea*, Germ., Silb. Rev. Ent. ii. p. 57.

1835. *Cicada olivacea*, Burm., Handb. Ent. ii. p. 162.

1843. *Cicada olivacea*, Am. et Serv., Hémip. p. 470.

1885. *Cyclochila australasica*, McCoy, Prod. Zool. Vic. i. p. 57, pl. 50, f. i.
1887. Green Cicada, Lucas, Proc. Roy. Soc. Vic. p. 173, pl. 1.
1895. *Cyclochila australasica*, Frogg., Proc. Linn. Soc. N.S.W. p. 528.
1903. *Cyclochila australasica*, Frogg., Agr. Gaz. N.S.W., p. 337, pl. 4, fig. 1; reprinted as Misc. Pub. No. 643, p. 4, pl. 1.

Head yellow or green, a black spot including the region of ocelli, black, the ocelli bright red. *Pronotum*, mesonotum, and abdomen yellow or green. Below yellow or green, the abdomen shining yellow. *Tegmina* vitreous, all veins with costa green, a pale yellow stripe along posterior border of clavus. *Legs* yellow or green, tibiæ and tarsi infuscated. Long. corp. ♂ 50 mm.; ♀ 40 mm.; exp. teg. ♂ 120 mm.; ♀ 100 mm. Size variable.

Hab.—New Holland (Donovan); Sydney, Newcastle, N.S.W.; Melbourne, Vic.; Southern Queensland.

A variety, for which we propose the name *spretæ*, is occasionally found. Its differential characters are quite constant, and doubtless it will prove to be a distinct species. Besides the black spot on the vertex there is a transverse black band across the front of the vertex reaching inner border of each eye; a central longitudinal black stripe on pronotum, extending from apex to the inner edge of posterior border. Abdomen black, some small yellow spots on lateral borders; apical border of first segment very sinuous; underneath, basal segment and a large portion of disc black; tibiæ dark red; rostrum reaching middle coxæ.

This is our common Green Cicada popularly known as the "Green Monday," while the less common yellow variety is known as the "Yellow Monday." It is very abundant in early summer in the suburban gardens, in the larval state feeding upon the roots of all the larger trees, appearing in Sydney at the end of October and remaining until the end of January. The male droops his wings down the sides of the abdomen and raises the tip of the body when drumming. Though hundreds have been under observation we have never seen one attempt to feed.

The Green Cicada is common all over Southern and Eastern Victoria, and ranges as far north as Brisbane; we have had no specimens from Western Australia.

Genus THOPHA, Am. et Serv.

1843. Hémip. p. 471.

1866. Stäl, Hemip. Afric. iv. p. 6.

Head short, broad, equal in width to apex of pronotum; eyes more or less pedunculated, prominent; ocelli four times more distant from eyes than from each other; apex of clavus acuminate; front destitute of a longitudinal sulcus. *Pronotum* with sides convex, widened forward. *Tegmina* vitreous, basal area not twice longer than broad; interior ulnar area broadened towards apex; ulnar veins distant at base. Wings vitreous, with six apical areas. Opercula short, transverse. Sides of abdomen in male with well developed sacs.

Type, *Tettigonia saccata*, Fabr.

SYNOPSIS OF SPECIES.

- 1 (2). Eyes lightly sessile; body pilose above, not glabrous; head, sternum, and opercula dark castaneous beneath; abdomen very little attenuated..... *saccata*.
- 2 (1). Eyes strongly sessile; body glabrous above, not pilose; head, sternum, and opercula ochraceous beneath; abdomen attenuated..... *sessiliba*.

THOPHA SACCATA, Fabr. (Plate xviii., figs. 1-5).

1803. *Tettigonia* id., Syst. Rhyng. p. 35.

1843. Am. et Serv., Hémip., p. 471.

1895. Frogg., Proc. Linn. Soc. N.S.W., p. 528.

1903. Frogg., Agr. Gaz. N.S.W., p. 340; and Misc. Pub. No. 643, p. 7, pl. 2, fig. 3.

Head black, a line on front border, an irregular spot on base of front, a stripe on each side, and two spots on vertex, yellow. *Pronotum* ferruginous, anterior and lateral borders black. *Mesonotum* yellow, with four obconical black spots, the outer pair longer and excavated, between inner pair a long narrow stripe

behind which is a transverse stripe, black. *Tegmina* vitreous, venation yellow, brown towards apex, costa striped with black, interior vein black. Wings vitreous, venation yellow. *Abdomen* ferruginous, segments more or less banded at base with black, the sacs red; below piceous, with irregular ferruginous spots, and floury pubescence. *Legs* ferruginous, marked with yellow and black; pectus with a row of yellow spots on each side. Long. corp. 50 mm.; exp. teg. 140 mm.

Hab.—New Holland (Stal); South Australia; Brisbane, Q.; Victoria; Sydney, Newcastle, N.S.W.

This is our largest species, and is popularly known as the "Double Drummer," in reference to the swollen drums of the male projecting on the sides of the abdomen. It frequents the more open forest country, clinging to the trunks of the large rough-barked Eucalypts, where the male produces its deep distinctive note, likened by Bennett to *áwock* uttered three times in rapid succession and then a break before it is again repeated.

**THOPHA SESSILIBA*, Distant.

1892. Ann. Mag. Nat. Hist. (6) ix. p. 314.

1903. Frogg., Agr. Gaz. p. 341; and Misc. Pub. 643, p. 8.

Body above dark ochraceous. *Head* with the margin of front and a broad fascia between the eyes pale castaneous. *Pronotum* with the incisures pale castaneous, the lateral and posterior margins stramineous. *Mesonotum* with four obconical castaneous spots, the central pair smallest. *Abdomen* castaneous above, the base ochreous, the apical segment thickly greyishly pilose. *Body* beneath ochreous; the face, fascia between face and eyes, legs, abdomen, and inflated tympana castaneous; anterior margins of tympana ochraceous beneath. *Tegmina* and wings pale hyaline, the venation ochraceous, becoming darker towards apices; the costal membrane and basal area ochraceous; anterior margin of basal area and anterior margin of claval area dark castaneous; claval area pale sanguineous. Long. corp. ♂ 42 mm.; exp. teg. 126 mm.

Hab.—Australia, Sydney (Distant); Northern Territory, S.A.; Townsville, Queensland.

This species differs from *Thopha saccata*, A. & S., the only other described species of the genus, by the much more strongly sessile eyes, a character alone which will instantly separate the species. Besides this structural feature, the colour is much paler, the body almost glabrous above, and not pilose as in *T. saccata*; the head, sternum, and opercula ochraceous beneath and not very dark castaneous, and the abdomen is narrower and more attenuated [Distant].

This handsome insect with its much brighter colouration seems to take the place in the Townsville district of *T. saccata*, which does not extend beyond Brisbane, and is comparatively common.

Genus HENICOPSALTRIA, Stål.

1866. Hemip. Af. iv. p. 7.

Body oblong. *Head* wider than front of pronotum; front convex, with a median longitudinal sulcus; apex of clypeus acuminate; ocelli two, sometimes three, times more distant from the eyes than from each other, *Pronotum* narrower in front than behind, front angles not covered by lateral part of head, often prominent; lateral borders destitute of denticles. *Metasternum* not elevated, destitute of a posterior process. *Tegmina* with basal area somewhat, rarely double, longer than broad; ulnar veins distant at base; interior ulnar area distinctly broadened towards base. Wings with six apical areas. *Abdomen* robust, the sides in the male sometimes furnished with large sacs laterally as in *Thopha*; opercula medium in size. Front femora spined below.

Type, *Cicada eydouxii*, Guér.

SYNOPSIS OF SPECIES.

- 1 (4). Sides of abdomen in ♂ developed into enormous sacs covered with white tomentum; tegmina infuscated only on 1st and 2nd anastomoses at apex; opercula widely separated.
- 2 (3). Anal appendages beneath pitchy..... *perulata*.
- 3 (2). Anal appendages beneath pale tawny, with a slender, longitudinal, pitchy, median line... .. *interclusa*.

- 4 (1). Sides of abdomen in ♂ destitute of sacs; tips of longitudinal veins, and bases of apical areas infuscated; opercula overlapping.
- 5 (6). Opercula of ♂ very large, bright rose-red..... *eydouzii*.
- 6 (5). Opercula of ♂ small, tawny or fuscous.
- 7 (8). Abdomen black, with a pale broad band extending over dorsum of second segment, interrupted in middle; beneath, in ♂, yellow, except borders; in ♀, two lateral, longitudinal, pale stripes; opercula tawny..... *fullo*.
- 8 (7). Abdomen black, a tomentose spot on each side of disc, one on each side at middle of lateral borders, and the base of anal appendage, white; opercula fuscous..... *nubivena*.

**HENICOPSALTRIA EYDOUXII*, Guérin.

1830. *Cicada* id. Voy. Coq. Zool. ii. p. 181.

1895. *Psaltoda flavescens*, Frogg., Proc. Linn. Soc. N.S.W. p. 530.

1903. *Psaltoda flavescens*, Frogg., Agr. Gaz. N.S.W., p. 420; and Misc. Pub. No. 643, p. 10, pl. 3, fig. 1.

Head ferruginous, a transverse band along front of vertex, including front border, a small spot at base, and a spot on base of front, yellow; two longitudinal stripes along middle, base of front, a large spot on each side anteriorly, and a curved stripe around inner border of each eye, black; front strongly produced, ferruginous, a broad central stripe, and transverse elevated lines on each side, fuscous. *Pronotum* ferruginous, front and hind borders, a longitudinal central stripe, yellow; lateral borders, a broad stripe on each side of central yellow stripe, and front edge of posterior border narrowly black; hind border very narrow. *Mesonotum* ferruginous, with four obconical stripes, the inner pair shorter and narrowly edged with yellow, the outer pair long, narrow, reaching a transverse band in front of cruciform elevation, a narrow, central line joining the transverse band, black; cruciform elevation yellow. *Tegmina* vitreous, veins yellow and ferruginous, front border of basal area, inner border of clavus, apical half of costa, portions of the rami of ulnar veins, bases of all the apical areas except the first, and a spot on tips of all longitudinal veins, black. Wings vitreous, the veins pale yellow and red, the middle vein and apical margin fuscous. *Abdomen*

large, ferruginous, a paler spot on middle of first segment, the bases of the others broadly black, all segments freely tomentose, especially sides of the second. *Body* below ferruginous, varied with black on chest; legs yellow, streaked with black, front tibiæ black. Opercula rose-red, one half the length of abdomen, broad, overlapping. Long. corp. 40-42 mm.; exp. teg. 110-125 mm.

Hab.—Port Jackson, N.H. (Guérin); Newcastle.

This species is placed under the name of *Psaltoda flavescens*, Dist., (a very rare and much larger Cicada) in all the Museum collections we have examined. It frequents the same localities and has very similar habits to *T. saccata*, but odd specimens may be sometimes taken in the gardens in November. It is popularly known as the Mottled Grey Cicada.

*HENICOPSALTRIA PERULATA, Guér.

1838. *Cicada* id., Voy. Coq. Zool. ii. p. 180, pl. 10, fig. 5.

1843. *Thopha* id., Am. et Serv., Hémip. p. 471.

Dark ferruginous. *Head* ferruginous, with a large spot in region of ocelli, a large spot near inner border of each eye, and upper surface of front, black; front light ferruginous, a line on each side of central sulcus, elevated lines on each side of sulcus, sides of face and clypeus, black; rostrum ferruginous, reaching hind coxæ. *Pronotum* dark ferruginous, a central longitudinal stripe bordered with black, and lateral somewhat dilated borders, ochraceous; furrows, and front edge of hind border, black; hind border broad, dusky greenish-ferruginous, a small black spot on middle. *Mesonotum* dark ferruginous, with four obconical black stripes, the outer pair longer and excavated with ferruginous; behind inner pair, a black stripe which unites posteriorly with a short black band in front of cruciform elevation, the latter, with scutellum, sordid ochraceous and covered with whitish hairs. *Tegmina* vitreous, venation black at base, dark ferruginous beyond, costa paler; 1st and 2nd anastomoses and apex of first apical area strongly infuscated. Wings vitreous, venation greenish-yellow, two spots near apex of anal area fuscous. *Abdomen*

ferruginous, a black transverse band on dorsum of each segment, near base and laterally covered with golden pubescence, elsewhere silvery; sound organs developed in large tawny, white tomentose covered sacs, covering nearly one-half the sides of abdomen. *Body* below tawny, abdomen shining black, a spot on each side of basal segment, and apical segment excepting narrow basal border, sordid yellow, densely clothed with tomentum, that along middle golden, elsewhere silvery; opercula small, sordid pale yellow. The two anterior pairs of legs piceous marked with tawny; hind pair paler. Chest mottled with fuscous. Long. corp. 35-38 mm.; exp. teg. 112-115 mm.

Hab.—Port Jackson (Guérin).

This species appeared in considerable numbers in the vicinity of Sydney in the 1902-3 season. Though described by Guérin so many years ago, it was until then very rare in Museum collections and has a very restricted range.

The beautiful large snow-white sacs of the male make this a very conspicuous insect.

It is rather remarkable that when opening out some nests of digger wasps (*Priocnemis bicolor*) at Mosman Bay, where they were storing their galleries with cicadas, it was found that the moribund insects were nearly all of this species, though many others were numerous.

**HENICOPSALTRIA INTERCLUSA*, Walk.

1851. *Thopha* (New sp.), List Hom. Brit. Mus. pl. 1, fig. 6.

1858. *Thopha* id., List Hom. Brit. Mus. Suppl. p. 5.

Testaceous, partly green. *Head* green, with a broad band extending between inner borders of eyes across vertex, base of front and two diverging stripes including region of posterior ocelli, black; a central basal spot, and basal border of front, yellow; front ferruginous, a median yellow stripe bordered with fuscous; rostrum testaceous, tip, a median line, piceous, reaching hind coxæ. *Pronotum* ferruginous, with a median yellow stripe bordered with black stripes on each side which extend along front border; furrows black; a yellow spot on each side near front

border; hind border broad, yellowish-green, anterior edge tinged with ferruginous; lateral borders broadly flattened out, yellowish-green; hind border broad. *Mesonotum* ferruginous, with four obconical black stripes, the outer pair longer and much excavated with ferruginous, a narrow central black stripe behind inner pair, and two black spots in front of cruciform elevation; apex broadly yellow; lateral borders and scutellum broadly white tomentose. *Tegmina* vitreous, veins greenish-yellow, darker towards tips; border, and basal area anteriorly, basal portion of exterior and interior border of clavus, radial vein, and apical half of costa, piceous; 1st and 2nd anastomoses very lightly infuscated; transverse vein at base of fifth apical area forming a right angle with longitudinal veins. Wings vitreous, venation greenish-yellow. *Abdomen* black, apical borders broadly ferruginous, the sound organs developed in enormous pale green sacs nearly covering sides of abdomen, and covered with white tomentum. *Body* below tawny, covered with white tomentum; abdomen shining black, apical borders of basal and apical segments broadly, and the other segments narrowly, and anal plate, yellow, a narrow black stripe on apex; opercula small, pale, tomentose. *Legs* tawny, femora marked with black; tips of tibiæ, and tarsi, darker. Long. corp. 25-32 mm.; exp. teg. 75-105 mm.

Hab.—Australia (Walker); Rockhampton and Townsville, Q.; Clarence River, N.S.W. (Masters).

*HENICOPSALTRIA FULLO, Walk.

1850. *Fidicina* id., List Hom. Brit. Mus. p. 96.

Head a little narrower than base of pronotum, black, a spot on base, front border on each side of front, yellow; front convex, a spot on each side near base, and lateral borders of face, yellow; rostrum ferruginous, tip black, reaching hind borders of opercula. *Pronotum* black, narrowed forward, a central stripe, front border on each side, lateral and posterior borders, yellow; six large dark red spots occupying spaces between furrows; lateral borders in front of middle denticulated; hind border broad. *Mesonotum* black, with four dark red obconical stripes, the inner pair shorter

and bordered exteriorly with yellow; posterior border and cruciform elevation, and scutellum, yellow. *Tegmina* vitreous, ferruginous and black at base, venation pale yellow, darker towards tips; basal area and costa yellow; bases of apical areas, excepting the sixth, and a row of spots on tips of longitudinal veins, fuscous. Wings vitreous, venation pale yellow. *Abdomen* black, a broad white band in front of middle, tip yellow. *Body* below sordid yellow, lateral borders black, in the female disc also black, oviduct dark red; opercula overlapping, one-third length of abdomen. Legs pitchy, fore femora red, middle and hind tibiæ marked with black. Long. corp. 30 mm.; exp. teg. 75 mm.

Hab.—New Holland, and Swan River, W.A. (Walker).

This species is much powdered below.

*HENICOPSALTRIA NUBIVENA, Walk.

1858. *Fidicina* id., List Hom. Brit. Mus. Suppl. p. 17.

Light ferruginous. *Head* with a broad dusky central stripe, a small yellow spot middle of base; rostrum reaching apex of hind coxæ. *Pronotum* light ferruginous, a central testaceous stripe, a stripe on each side of above stripe, and furrows, black; lateral borders in front of middle denticulated, hind border very narrow. *Mesonotum* light ferruginous, with two short black stripes bordered with yellow, apex broadly fuscous. *Tegmina* vitreous, veins testaceous, borders at base and narrowly to transverse veins, bases of apical areas, and a spot on tip of each longitudinal vein, broadly bordered with black; basal area infuscated. Wings vitreous, venation testaceous, anal area and clavus infuscated. *Abdomen* black, with white pubescence on base, tip, and a large spot on each side white pubescent. *Body* below, with legs, testaceous, abdomen black, apical borders of segments, greater portion of apical segment, and anal plate, testaceous. Long. corp. 20-25 mm.; exp. teg. 54-70 mm.

Hab.—Adelaide, S.A. (Walker), same locality (Tepper).

There is a large series of this handsome species in the Macleay Museum, collected near Gawler, S.A., by Odewahn, so Mr. Masters informs us.

Genus *CICADA*, Linn.

1766. Syst. Nat. p. 704.

Body robust, moderately long. *Head* broad, equal in width to base of pronotum; front prominent; ocelli double the distance from the eyes as from each other; eyes sessile; apex of clypeus truncated or subtruncated. Sides of *pronotum* convex, lightly broadened. *Tegmina* vitreous, sometimes marked with brown; ulnar veins distant at base; interior ulnar area broadened towards apex; basal area longer than broad; eight apical areas. Wings vitreous, with six apical areas. Front *femora* with three spines below.

Type, *Cicada ciliaris*, Linn.

SYNOPSIS OF SPECIES.

- 1 (6). Tegmina with apical areas more or less infuscated.
- 2 (5). Bases of apical areas of tegmina, and apical portion of longitudinal veins lengthily, and external borders of apical areas of wings lightly, infuscated; abdomen unicolorous.
- 3 (4). Black with yellow spots; posterior border of pronotum dark red; fuscous markings on tegmina strongly marked. *angularis*.
- 4 (3). Dark castaneous with yellow spots; posterior border of pronotum light yellow; fuscous markings on tegmina lightly marked. *hieroglyphica*.
- 5 (2). Bases of 2nd, 3rd, and 4th apical areas, and tips of longitudinal veins only, lightly infuscated; ochraceous, with green markings; base of anal appendage pale. *sylvana*.
- 6 (1). Tegmina immaculate; last abdominal segment and anal appendage broadly yellow.
- 7 (8). Dorsum of pronotum and mesonotum immaculate; base of anal appendage black. *extrema*.
- 8 (7). Dorsum of pronotum and mesonotum marked with black or green; base of anal appendage yellow.
- 9(10). Mesonotum largely black; opercula of male small... *intersecta*.
- 10 (9). Mesonotum green marked with yellow and black; opercula of male large. *sylvanella*.

**CICADA ANGULARIS*, Germ.

1834. Silb. Rev. Ent. ii. p. 68.

1850. *Fidicina* id., Walk., List Hom. Brit. Mus. p. 78.

1859. Stål, Fr. Eug. Omk. Jord. Zool. iv., Hem. p. 269.

1895. *Macrouistria* id., Frogg., Proc. Linn. Soc. N.S.W. p. 529.

1903. *Macrouistria* id., Frogg., Agr. Gaz. N.S.W. p. 418; and
Misc. Pub. No. 643, p. 8, pl. 2, fig. 1.

Head width of base of pronotum, black, a large spot at inner border of eyes, front border, a spot on base of front, and some smaller spots, yellow; front prominent, black; rostrum black, reaching posterior coxæ. *Pronotum* black, with three yellow spots, the middle one elongated, the posterior border ferruginous. *Mesonotum* black, with four (sometimes six) yellow spots, the outer pair longer and narrower; crucial elevation and scutellum ferruginous, pilose on each side. *Tegmina* vitreous, venation yellow, basal area fuscous, apical areas margined with fuscous. Wings vitreous, inner border at base, and outer margin of anal area, with median vein of clavus, broadly ferruginous. *Abdomen* black. *Body* below dark ferruginous, pilose; apical segment of female emarginate; opercula ferruginous, short, apex broadly rounded, overlapping. Chest variegated with black. *Legs* ferruginous, tibiæ and tarsi blackish. Long. corp. ♂ 45 mm.; ♀ 50 mm.; exp. teg. ♂ 120; ♀ 140 mm.

Hab.—Sydney (Stål); Brisbane, Q. (Illidge, De Vis); Adelaide, S. Aust. (Tepper); Victoria; Sydney, Newcastle, N.S.W.

This species is common about the Sydney bush in midsummer, and is known as the "Fiddler," from the fancied resemblance of its call note to the sound of a fiddle. It has a wide range, but its headquarters appear to be in the neighbourhood of Sydney to Newcastle.

**CICADA SYLVANA*, Dist.

1901. Trans. Ent. Soc. Lond. p. 591, pl. 16, fig. 1.

♂. *Head* pale olivaceous-green; front castaneous, ochraceous at base with a central piceous spot, vertex with central area behind front ochraceous, the ocelli bright castaneous margined with black.

Pronotum olivaceous-green, with a large ochraceous discal spot on each side. *Mesonotum* ochraceous, with two large but very obscure central obconical spots at anterior margin, the outer margins of which are intensely black; cruciform basal elevation ochraceous. *Tegmina* and wings pale hyaline with the venation fuscous; costal membrane, upper half of basal area and a subbasal streak olivaceous-green; a submarginal series of small fuscous spots near apices of longitudinal veins to apical areas; wings with some basal lineate fuscous streaks. *Abdomen* above more or less piceous and obscurely greyishly pilose, posterior margins of the second, third, and fourth segments and nearly the whole of the fifth and sixth segments, brownish-ochraceous. *Body* beneath with face castaneous centrally piceous; sternum thickly greyishly pilose with its margins olivaceous-green, abdomen brownish-ochraceous, sparingly greyishly pilose, in the female a central darker fascia; legs castaneous; coxæ, apices of femora and bases of tibiæ ochraceous, hind tibiæ palest.

♂. Opercula ochraceous, about meeting internally, lateral margins obliquely rounded, apices convex.

Long. ♂ 42, ♀ 40; ex. teg. 120 mm.

Hab.—North Queensland, Cairns [Distant].

*CICADA HIEROGLYPHICA, sp.nov.

Head broad, short, front border strongly produced, lemon yellow, a fuscous band passing across vertex between eyes, and base of front fuscous; front almost globular, strongly produced, lemon yellow, with lateral fuscous striations which are obsolete except near base, sides of face yellow covered with long white hairs; clypeus fuscous, hairy; rostrum black, base yellow, tip reaching apices of hind coxæ. *Pronotum* lemon yellow, a broad central stripe posteriorly passing into a broad transverse band each end of which is broadened into a large spot on the sides; furrows, spot on each side of central stripe, posterior and lateral edges, fuscous; lateral borders sinuate; the arrangement of the markings reminds one of Egyptian hieroglyphics. *Mesonotum* fuscous, a large triangular spot on each side of disc posteriorly,

and an oval stripe near lateral borders, lemon yellow; cruciform elevation ferruginous, covered with long white hairs. *Tegmina* vitreous, costa broad, dilated towards base, basal third lemon yellow, thereafter castaneous; veins surrounding apical areas lightly infuscated; exterior and interior borders of clavus yellow, veins otherwise including basal area and basal membranes, fuscous. Wings with base and posterior border fuscous, veins otherwise yellow. *Abdomen* black, covered with golden and white hairs, a spot on each side of anal appendage yellow. *Body* below: chest castaneous, streaked with lemon yellow, very hairy. *Abdomen* lemon yellow, a broad median stripe, and lateral borders, fuscous, hairy. *Coxæ*, and streaks on femora, lemon yellow. Long. corp. 35 mm.; lat. 15 mm.; exp. teg. 106 mm.

Hab.—King's Sound, N.W.A.; two females in the Macleay Museum (collected by Froggatt, 1887).

**CICADA SYLVANELLA*, sp. nov.

Head produced in front, pale green, with numerous dark green lines; five small spots on hind border, spot occupied with ocelli emitting a short band on each side, black; front convex, very prominent, yellow, a broad stripe on each side of middle diverging towards apex; clypeus yellow, rostrum ferruginous, tip black, reaching behind *coxæ*; eyes sessile. *Pronotum* pale green, front border, furrows anteriorly, and hind border infuscated; posterior edge black. *Mesonotum* pale green, four excavated obconical stripes, the outer pair longer, a transverse band and two dots in front of and a transverse band on each side of cruciform elevation, with lateral borders fuscous. *Tegmina* vitreous, costa green, darker towards apex; veins reddish toward base, black toward tip, posterior border of clavus black, basal membranes yellow. Wings with venation on basal portion yellow, darker towards apex, basal half of posterior border and anterior border of anal area infuscated. *Abdomen* yellow, tympanal covers greenish, base of segments, except the last, broadly black, the black encroaching on the yellow narrowly on dorsum, the last segment broadly yellow, base of anal appendage yellow with three black

dots, apex black with a yellow spot on each side. *Body* below: chest pale yellow streaked with red; opercula long, broad, a little distant, base narrowly fuscous; abdomen fuscous yellow, a broad fuscous band from base to penultimate segment. *Legs* yellow striped with red. Long. corp. 31 mm.; exp. teg. 90 mm.

Hab.—Cairns, Queensland; two males collected by Dodd. One of the examples, doubtless recently emerged, has the obconical stripes on the mesonotum yellow.

Allied to *extrema* and *intersecta*; it is longer and narrower than *extrema*, and pronotum differently shaped.

*CICADA EXTREMA, Dist.

1892. Ann. Mag. Nat. Hist. (6), x. p. 56.

♂. Head and thorax brownish-ochraceous. Pronotum with the lateral and posterior margins pale ochraceous. Abdomen above castaneous, the posterior segmental margins paler; apical half of the last segment and anal appendage ochraceous; tympanal coverings obscure ochraceous. *Head* beneath and sternum brownish-ochraceous; the face, space between face and eyes, lateral margins of prosternum, legs, and opercula, pale ochraceous; femora and tibiæ streaked with castaneous. *Tegmina* and wings pale hyaline, venation fuscous, ochraceous at basal area; costal membrane and upper part of basal area ochraceous. *Abdomen* beneath castaneous, the apex pale ochraceous as above. The face is very globose, centrally sulcated (except at base) and obliquely striated; rostrum reaches intermediate coxæ; opercula short, not extending beyond basal segment, convexly rounded, overlapping at inner margins.

♀. Head and thorax above pale greenish-ochraceous and unicolorous.

Long. corp. ♂ 34, ♀ 30 mm.; exp. teg. ♂♀ 90 mm.

Hab.—Swan River, W.A. (Coll. Distant); Rockhampton, Port Denison, Q.; King's Sound, N.W.A.

This somewhat large species of Cicada is allied to *C. intersecta*, Walk., and like that species has the pale apex to the abdomen; but *C. extrema* may be at once recognised by the more robust and

less symmetrical body, the head and thorax being relatively wider, the unspotted head and thorax, the longer second apical area to the tegmina, etc. [Distant].

**CICADA INTERSECTA*, Walk.

1850. *Fidicina* id., List Hom. Brit. Mus. p. 97.

Fidicina internata, Walk., id. p. 98.

Fidicina prasina, Walk., id. p. 100.

Body tawny. *Head* equal in breadth to base of pronotum; a short band on vertex with branches forward and backward, and region of ocelli, black; front very convex, with two broad black stripes, between which frequently is a slender line; rostrum tawny, tip black, reaching middle coxæ. *Pronotum* with two or three black dots near hind border, furrows same colour; more or less tinged with green. *Mesonotum* with four stripes, outer pair longer and excavated, a curved spot in front of cruciform elevation, black. *Tegmina* vitreous, costa pale green, apical part dusky; interior vein black, venation otherwise reddish. *Wings* vitreous, base and exterior vein of anal area fuscous. *Abdomen* with base of segments black, last segment and anal appendage broadly yellow, a black dot on the latter. *Body* below yellow, abdomen with a broad piceous band which does not reach apex. *Legs* yellow, thighs near base, front and middle tibiæ and tarsi, ferruginous. Long. corp. 28 mm.; exp. teg. 90 mm.

Hab.—Port Essington, North Aust. (Walk.); Port Denison, Townsville, Q.

Genus *PSALTODA*, Stål.

1866. Hemip. Afric. iv. p. 6.

Head very broad; front occupying one-third breadth of face; with eyes much broader than front of pronotum. *Pronotum* with lateral margins attenuated, dilated from base, suddenly rounded in front of middle and obtuse; front angles not produced, usually covered by sides of head. *Tegmina* with eight apical areas; basal area as long as wide; two ulnar veins distant at base; interior ulnar area dilated towards apex; postcostal space linear. *Wings*

with six apical areas. Sides of *abdomen* parallel beyond middle; tympanum wholly covered by the anterior leaf-like expansion of basal segment; opercula large, widened from base to apex, which is truncated. Front *femora* with three spines below, subapical spine minute.

Type, *Cicada mærens*, Germ.

SYNOPSIS OF SPECIES.

- 1(12). Tegmina with 1st and 2nd anastomoses spotted with black.
- 2 (9). Tips of longitudinal veins of tegmina and of apical areas of wings infuscated.
- 3 (4). Sides of abdomen with two yellow spots... .. *pictibasis*.
- 4 (3). Sides of abdomen without spots.
- 5 (6). Abdomen orange-yellow..... .. *aurora*.
- 6 (5). Abdomen not yellow.
- 7 (8). Abdomen castaneous..... .. *flavescens*.
- 8 (7). Abdomen black..... .. *mærens*.
- 9 (2). Tips of longitudinal veins of tegmina and apical areas of wings not spotted.
- 10(11). Sides of abdomen with a large silver spot..... .. *harrisii*.
- 11(10). Sides of abdomen without spots..... .. *plebeia*.
- 12 (1). Tegmina immaculate.
- 13(14). Abdominal segments broadly pale ferruginous..... .. *argentata*.
- 14(13). Abdomen mostly black..... ..(*dichroa*) *harrisii*.

*PSALTODA MÆRENS, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 67.
1860. *Cicada* id., Bennett, Wand. Nat. Aust. p. 18.
1885. *Cicada* id., McCoy, Prod. Zool. Vic. Dec. v., p. 53, pl. 50, figs. 1-2.
1895. Frogg., Proc. Linn. Soc. N.S.W. p. 529.
1897. Black Cicada, Kershaw, Vic. Nat. p. 119.
1903. Frogg., Agr. Gaz. N.S.W. p. 340; and Misc. Pub. No. 643, p. 7, pl. 3, fig. 2.

Black. *Head* triangular, black. *Pronotum* black, width of head, posterior margin broad, sordid ferruginous. *Mesonotum* black, a spot on each anterior angle and a spot on each side of

apex yellow. *Tegmina* vitreous, venation piceous, basal area vitreous; the three exterior anastomoses and tips of longitudinal veins infuscated. Wings vitreous, venation yellow, basal half of anterior margin darker, tips of longitudinal veins infuscated. *Abdomen* black above. *Body* below yellow, base and lateral margins fuscous; chest white pilose, black and yellow variegated. *Legs* black, streaked with yellow. Long. corp. 36 mm.; exp. teg. 115 mm.

Hab.—Australia (Germar); Adelaide, S.A. (Tepper); Melbourne, Vic. (McCoy); Brisbane, Q. (Illidge and De Vis); Sydney, Uralla, Orange, &c., N.S.W.; Tasmania.

The Black Cicada or "Red-eye" is seldom found in our gardens, but frequents the trunks and branches of the smooth-stemmed Eucalypts, often congregating in considerable numbers in sheltered localities. They bury their beaks in the bark, sucking up the sap so freely that they are constantly discharging from the anus a fine stream of liquid which falls in a fine spray below. The note of the male, shrill at first, ends in a series of squeaks, and can be heard at a considerable distance.

This species is very abundant in the open forest country of Gippsland and Sydney, running out towards Southern Queensland on the north and Adelaide to the west.

**PSALTODA AURORA*, Dist.

1881. Trans. Ent. Soc. p. 644.

♂. *Head* black; vertex with a spot at anterior lateral margins; two transverse spots on each side of disc, near anterior margins, ocelli and eyes ochraceous. *Pronotum* dull, obscure ochraceous, with two central longitudinal black fasciæ, more separated, and widest apart at anterior margin, much closer together near posterior margin, where they are joined to a broad basal central fascia of the same colour; an obscure arcuated fascia on each side of disc, and oblique striæ also black. Posterior and lateral margins bright ochraceous, narrowly edged with black. *Mesonotum* dark, obscure ochraceous, with two

central obconical spots, on each side of which is a much longer and more angulated spot, and a large broad spot, elongated and narrowly pointed anteriorly, situated in front of cruciform elevation, black; cruciform elevation bright ochraceous, with the anterior branchlets black. Scutellum black. *Tegmina* pale hyaline; veins fuscous, ochraceous towards base; costal membrane bright ochraceous; transverse veins at bases of second and third apical areas infuscated. Wings pale hyaline; veins fuscous and ochraceous. *Abdomen* orange-yellow; first abdominal segment with centre of basal margin and lateral sides of apical margin black. *Body* beneath bright ochraceous; face, anterior margins of head, inner margins of eyes, anterior and intermediate tibiæ and tarsi and base of metasternum black. Femora ochraceous, streaked with black. Rostrum pitchy, ochraceous towards base. The *face* is long, broad, and very convex, with a narrow central sulcation and strong transverse striations; the rostrum reaches posterior coxæ. The *opercula* are broad, produced, angulated, and slightly overlapping interiorly, subtruncate outwardly, rounded posteriorly, and not reaching anterior margin of tympana. Long. corp. 48; exp. teg. 120 mm.

Hab.—Australia, Rockhampton, Q. (Distant).

This species differs from *P. mœrens*, Germ., not only by its large size and brighter and different colouration, but also by the broader and more convex face, somewhat shorter rostrum, longer and not apically compressed abdomen, etc.

**PSALTODA FLAVESCENS*, Dist.

1892. Ann. Mag. Nat. Hist. (6) x. p. 55.

♂. *Head* ochraceous; the base and lateral areas of front, the area of the ocelli, a broad fascia between the eyes, a central basal fascia and a linear spot near anterior angles of vertex black. *Pronotum* with the disc castaneous, the lateral and posterior margins and a central fascia ochraceous; inner edge of lateral and posterior margins, a central spot on posterior margin, the furrows, and the margins of the central fascia fuscous black. *Mesonotum* castaneous, with four obconical black spots, the

central pair shortest, the outer pair sometimes broken, and a spot in front of the basal cruciform elevation black. *Tegmina* and wings pale hyaline, venation castaneous. *Tegmina* with the costal membrane and basal area pale castaneous, the transverse veins at the bases of the second and third apical areas narrowly infuscated, and a series of small and somewhat indistinct fuscous marginal spots on the apices of the longitudinal veins of the apical areas. Wings with the margin of the claval areas infuscated. *Abdomen* above pale castaneous, anterior margins of the segments broadly blackish, especially on the basal segments, where the markings are centrally macular; tympanal coverings, excluding anterior margins, blackish. *Head* beneath, sternum, legs and opercula ochraceous; the central sulcature and numerous striations to face, space between face and eyes, rostrum (excluding base), coxal streaks, anterior tibiæ, apical halves of middle tibiæ, anterior and middle tarsi, and the inner margin of the opercula blackish. *Abdomen* pale castaneous with the base narrowly black enclosing two small ochraceous spots. The face is very globose, the opercula do not meet centrally, the rostrum reaches the posterior coxæ. Long. corp. ♂ 40, ♀ 30 mm.; exp. teg. ♂ 107, ♀ 90 mm.

Hab.—Australia (Distant); Sydney, New South Wales.

Allied to *P. argentata*, Germ., differs in shape and colour of opercula, the more globose face, different colour-markings, etc.

**PSALTODA PICTIBASIS*, Walk.

1858. *Cicada* id., List Hom. Brit. Mus. Suppl. p. 31.

Head pale ferruginous, with two black bands, one across disc of vertex, the other at base of front, a small yellow spot at middle of base; front with sulcus, elevated lines radiating from it, and clypeus black; rostrum piceous, base testaceous, reaching posterior coxæ. *Pronotum* pale ferruginous, a dark yellow central stripe bordered with black, the furrows and a line along anterior edge of hind border black; hind border broad, fuscous-green, lightly dilated on lateral borders. *Mesonotum* ferruginous, with four obconical stripes, the outer pair longer and excavated with ferruginous; a large triangular spot behind inner pair, and a spot on

each anterior ramus of the ochraceous cruciform elevation black; scutellum black, covered with white hairs. *Tegmina* vitreous, tinged with green at base; venation ferruginous, darker towards tips, first and second anastomoses and tips of longitudinal veins clouded with fuscous. Wings vitreous, venation reddish or pale green, tips of first, second, and third longitudinal veins tinged with fuscous. *Abdomen* black, above, with two lateral tawny spots on each side, one pair at base, the other in front of middle; with scattered white tomentum. *Body* below testaceous, chest laterally, and sides of abdomen, densely white tomentose; opercula one-third length of abdomen, reddish-tawny. Legs testaceous, front and middle tibiae piceous. Long. corp. 40 mm.; exp. teg. 105-150 mm.

Hab.—Moreton Bay (Walker), Rockhampton, Q.

*PSALTODA PLEBEIA, sp. nov.

Head black; front border and three small spots near front yellow; front convex, piceous, spot on base and borders yellow; face piceous, narrowly edged with yellow; rostrum piceous, base yellow, till reaching posterior coxæ. *Pronotum* black, an hour-glass-shaped central stripe and two large spots on each side yellow; lateral borders sinuate. *Mesonotum* yellow, two obconical stripes on disc, two irregular spots on each side, a large anteriorly acuminate spot in front of cruciform elevation, and a spot on each side, black. *Tegmina* vitreous, two exterior anastomoses infuscated; basal half of costa and veins greenish, a stripe on anterior edge of basal area, posterior border of clavus, and apical half of veins, castaneous; basal area opaque yellow. Wings with veins castaneous, yellowish towards base. *Abdomen* black. *Body* below ochraceous, chest lightly marked with fuscous stripes on each side; tarsi castaneous. *Abdomen* with a broad central stripe, and lateral edges, fuscous. Long. corp. 32 mm.; lat. 14 mm.; exp. teg. 100 mm.

Hab.—New South Wales; one female, in the Macleay Museum.

Since the above was prepared we have seen the male, in the Macleay Museum, which closely resembles the female, but the yellow colour is less in evidence.

**PSALTODA ARGENTATA*, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 66.

1850. *Cicada plaga*, Walk., List Hom. Brit. Mus. p. 109.

Cicada argentata (?), List, etc., p. 110.

Pale yellow to ferruginous. *Head* somewhat broader than pronotum; a broad irregular black band on vertex; front convex, green, or a greenish stripe on middle, sides and streaks black; rostrum tawny, tip black, passing hind coxæ; antennæ ferruginous. *Pronotum* fuscous-olivaceous or ferruginous, with a yellow stripe bordered with black, furrows and sides black; hind border greenish or fuscous, sometimes tawny. *Mesonotum* light ferruginous, with four obconical spots, outer pair longer with inner sides excavated with ferruginous; between middle pair a slender black stripe, broadened towards apex, uniting with a curved transverse band in front of cruciform elevation. *Tegmina* vitreous, green at base, basal half of costa and veins green, thereafter piceous. Wings vitreous, venation tawny. *Abdomen* obconical, black above, hind borders of segments ferruginous, that colour sometimes occupying the entire lateral portions; on each side a large patch of silvery tomentum; tip with black marks; below paler, sometimes with three black longitudinal stripes. *Legs* tawny, femora streaked with black, tips of tibiae, and tarsi piceous. Long. corp. 34-40; exp. teg. 90-100 mm.

Hab.—Australia (Germar); New South Wales (Walker); Brisbane, Q. (Illidge, Tryon).

**PSALTODA HARRISII*, Leach.

1814. *Tettigonia* id., Zool. Misc. i. p. 89, pl. 39, fig. 1.

1835. *Cicada dichroa*, Boisd., Voy. Astr. p. 612, pl. 10, fig. 7.

1850. *Fidicina subguttata*, Walk., List Hom. Brit. Mus. p. 95.

Head ferruginous, a transverse band extending across vertex, another at base of front, a large spot in region of ocelli, and basal border, black; front ferruginous, base and transverse streaks, black; rostrum reaching bases of hind coxæ. *Pronotum* ferruginous, two central parallel stripes, furrows, front border, and a transverse curved narrow streak in front of hind border, black;

hind border broad, ferruginous. *Mesonotum* varying from yellow through red to black; with four obconical stripes, outer pair the longer and more or less excavated, a central stripe acuminate towards base broader towards apex where it unites with a large spot in front of cruciform elevation, and scutellum, black; pubescent. *Tegmina* vitreous, venation reddish near base, green or fuscous towards tips, 1st and 2nd anastomoses infuscated, frequently absent. Wings similar. *Abdomen* black, a ferruginous spot near base, and an oval yellow spot on each side at middle, covered with silky white or yellow pubescence. *Body* below ferruginous, abdomen variously marked with black; sides covered with pubescence. Legs concolorous. Long. corp. 25-38 mm.; exp. teg. 80-110 mm.

Hab.—New Holland (Leach); Sydney (Boisduval), Tweed River, N.S.W.; Kuranda, Q.

The markings of this extremely variable species depend upon the amount of colouring material deposited, while it has a wide range in measurements. Some are almost entirely black, while others are quite green, yet there are no structural characters in the one that are not present in the other. In a long series we have never seen a specimen of *dichroa* with the anastomoses of the tegmina infuscated, yet in *harrisii* occasionally one is seen with them not infuscated. In drawing up the above description an average example was in hand.

This cicada is found about the open forest in the vicinity of Sydney, but is not common, seldom more than a pair being taken at the same time. Though so very variable it is easily recognised by the bright silver blotch on either side of the abdomen.

Genus CRYPTOTYMPANA, Stål.

1861. Ann. Soc. Ent. Fr. sér. 4, p. 613.

1866. Hemip. Afric. iv. p. 6.

Body oblong. *Head* convex, very broad; eyes salient. Front angles of *pronotum* not covered by sides of head, often distinctly prominent; lateral margins destitute of denticles. *Metasternum* elevated in middle, and furnished with a strong posterior process directed backward. Basal area of *tegmina* somewhat, rarely double,

longer than broad; interior ulnar area distinctly broader toward apex; ulnar veins widely distant at base; eight apical areas. Wings with six apical areas. *Abdomen* conical. Opercula large, overlapping. Front femora spined below.

Type, *Cicada nigra*, Stoll.

*CRYPTOTYMPANA NIGRA, Stoll.

1788. *Cicada nigra*, Stoll, Cig. p. 84, pl. 22, fig. 118.

1790. *Cicada* id., Ol., Enc. Méth. v. p. 750.

1794. *Tettigonia pustulata*, Fabr., Ent. Syst. iv. p. 20.

Tettigonia atrata, Fabr., Ent. Syst. iv. p. 24.

1849. *Cicada atra*, Sign., Rev. et Mag. Zool.

Head black; eyes grey; vertex with a sordid white spot near ocelli. *Tegmina* and wings vitreous, with basal fourth brown, blackish at base; without spots. Legs brown, variegated with black. Long. corp. 47 mm.; exp. tegm. 133 mm.

Hab.—China (Oliver); Australia; one example in the National Museum, Melbourne, from Australia.

Genus TYMPANOTERPES, Stål.

1866. Hemip. Afric. iv. p. 7.

Body oblong. Front convex. *Pronotum* with lateral margins flattened out, destitute of lateral denticles. *Metasternum* not or very lightly elevated at middle where it is not produced in front. *Tegmina* vitreous, sometimes marked with black spots; basal area rarely double longer than wide; ulnar veins distant at base; interior ulnar area distinctly broadened toward apex; postcostal marginal space with apex a little broadened. Wings with six apical areas. *Abdomen* of female with last ventral segment not or lightly emarginate. Front femora spined below.

Type, *Cicada marginata*, Ol.

TYMPANOTERPES HILARIS, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 69.

1850. *Cicada subtineta*, Walk., List Hom. Brit. Mus. p. 147.

Cicada albiflos, Walk., id. p. 148.

1858. *Cicada tomentosa*, Walk., id. Suppl. p. 22.

Pale yellow, grey pubescent. *Head* short, width of pronotum; front rounded, occupying half the width of face; vertex double width of eyes, with a stripe and eyes fuscous. *Pronotum* in front width of head, a little wider posteriorly, lateral margins a little sinuate, the sulci fuscous, lateral and posterior margins and median line pale. *Mesonotum* pale yellow, with four obsolete fuscous stripes. Scutellum pale. *Tegmina* vitreous, venation pale, costa pale, with two fuscous spots, apical part of all longitudinal veins, and three anastomoses, infuscated. Wings vitreous, veins pale. *Abdomen* pale yellow, with grey pubescence. *Legs* pale yellow, with fuscous streaks. Long. corp. ♀ 18; exp. teg. 50 mm.

Hab.—Australia (Germer).

Genus TETTIGIA, Kol.

1857. Mel. Ent. vii. p. 6.

1866. Stål, Hemip. Afric. iv. p. 7, and p. 23.

Body oblong or a little elongate. *Head* about equal in breadth to front of pronotum; vertex about double broader than eyes; front lightly convex, a little prominent at base, occupying a little more than one-third of the face, the transverse carinæ interrupted in the middle; no middle longitudinal sulcus; clypeus subacuminate or a little rounded. Rostrum reaching or a little passing posterior coxæ. Ocelli about doubly distant from the eyes than from each other. *Pronotum* narrowed forward, lateral margins acute or a little dilated. Basal area of *tegmina* somewhat longer than broad; ulnar veins quite distant at base; costal and radial vein contiguous; apex of interior ulnar area somewhat broadened. Wings with six apical areas. Tympanum largely covered by large dorsal lobe. Opercula short, not contiguous. Front femora with two large spines below and sometimes a subapical spinule.

Type . . .

SYNOPSIS OF SPECIES.

- 1 (2). Tegmina with first and second anastomoses infuscated... *tristigma*.
 2 (1). Tegmina with all anastomoses except last infuscated..... *variegata*.

**TETTIGIA TRISTIGMA*, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 67.

1850. *Cicada* id., Walk., List Hom. Brit. Mus. p. 162.

1851. *Cicada* id., Walk., List Hom. Brit. Mus. pl. i., fig. 5.

1861. *Tettigia* id., Stål, Ann. Soc. Ent. France, p. 617.

Head obtuse, yellow, not narrower than middle of pronotum, vertex on each side in front of middle with two small oblique stripes, cheeks and a line on clypeus black; ocelli ringed with black; rostrum testaceous, tip ferruginous, reaching anterior apical angles of opercula. *Pronotum* yellow, lateral borders diverging backward and lightly sinuate at middle, median stripe and two obsolete spots black; hind border paler. *Mesonotum* ochraceous, with four obconical black spots, the outer pair longer and narrow, a spot in front and one on each side of cruciform elevation, black. *Tegmina* vitreous, passing tip of abdomen by half their length, venation testaceous, the first and second anastomoses and tip of first apical area infuscated; interior ulnar area with apex not or very little broader than base. Wings vitreous, venation pale tawny. *Abdomen* ochraceous, a transverse fuscous band on some of segments, interrupted in middle. *Body* tawny, opercula very pale, short; abdomen yellow, a fuscous stripe through the middle; in female, a fuscous spot on each side of anal appendage, and a small spot on its dorsum. Legs tawny. Long. corp. 19 mm.; exp. teg. 61 mm.

Hab.—Australia (Germar); New Holland (Walker); Northern Territory, S.A., collected by J. G. Tepper.

**TETTIGIA VARIEGATA*, sp. nov.

(Plate xviii., figs. 9-9a.)

Head reddish-fuscous, a black spot occupied by ocelli, a yellow band on each side of head and a similar coloured spot on base of front; front convex, pale reddish-fuscous with a dark stripe along middle, and sides of face yellow and densely hairy; rostrum ferruginous, passing hind coxæ. *Pronotum* with the front somewhat narrower than head, yellow, an hourglass-shaped central stripe

enclosing a yellow stripe, a short curved stripe on each side, furrows, front edge of posterior border, and posterior angles, fuscous. *Mesonotum* yellow, four obconical broad stripes, outer pair longer and excavated, a large spot in front of and a transverse band on each side of cruciform elevation with lateral borders black. *Tegmina* passing tip of abdomen by half their length, costa and veins yellow, all apical anastomoses excepting the last, a small spot on tip of first apical area, a small spot near tips of longitudinal veins, posterior border of clavus, and base of radial vein, fuscous. Wings with venation towards apex, short vein of anal area, fuscous, the latter milky on posterior border, otherwise veins pale yellow. *Abdomen* piceous, last segment and anal appendage bordered with yellow; covered with white pubescence. *Body* below: chest sordid yellow covered with white pubescence. Opercula medium, broad, approaching, infuscated. Abdomen fuscous, last segment and anal appendage sordid yellow. Legs fuscous, streaked with yellow, hind tibiae yellow. Long. corp. 22, lat. 8; exp. teg. 70 mm.

Hab. — Townsville, Q.; two males and one female, collected by Dodd.

SYNOPSIS OF THE GENERA OF THE SUBFAMILY TIBICENINÆ.

- 1(10). Tegmina opaque, coloured.
- 2 (3). Body densely hairy; abdomen of male not inflated. TETTIGARCTA.
- 3 (2). Body not hairy.
- 4 (7). Abdomen of male inflated; venation of tegmina very irregular on apical half, forming numerous discoidal and apical areas.
- 5 (6). Basal area of tegmina emitting two ulnar veins ... CYSTOSOMA.
- 6 (5). Basal area of tegmina emitting three ulnar veins. CYSTOPSALTRIA.
- 7 (4). Abdomen of male not inflated; venation of tegmina regular, with eight apical areas.
- 8 (9). Front furnished with a distinct, abbreviated, longitudinal sulcus... HUECHYS.
- 9 (8). Front destitute of a median sulcus..... GEANA.
- 10 (1). Tegmina vitreous, sometimes with coloured markings.
- 11(14). Basal area of tegmina emitting one (or two contiguous) ulnar veins.

- 12(13). Wings with six apical areas..... MELAMPSALTA.
 13(12). Wings with five apical areas..... PAUROPSALTA.
 14(11). Basal area of tegmina emitting two ulnar veins.
 15(20). Abdomen of male inflated.
 16(17). Tegmina with eight apical areas; wings with six
 apical areas; eyes directed obliquely backward ... KANAKIA.
 17(16). Tegmina with eleven or more apical areas; eyes
 normal.
 18(19). Wings with five apical areas.. CHLOROCYSTA.
 19(18). Wings with six apical areas..... GLAUCOPSALTRIA.
 20(15). Abdomen of male not inflated.
 21(22). Tegmina with eight apical areas; ulnar veins dis-
 tant at base; front moderately convex; opercula
 contiguous TIBICEN.
 22(21). Tegmina with nine apical areas; ulnar veins con-
 tiguous at base, briefly parallel; front very con-
 vex; opercula small, widely separated..... VENUSTRIA.

Genus VENUSTRIA, gen.nov.

Head a little broader than apex of pronotum, free from hairs; front border strongly arched forward; obtuse in front; eyes large; ocelli distant from base, equidistant from each other and eyes; front prominent, median sulcus barely marked; apex of clypeus rounded with a tubercle on each side of base; rostrum reaching bases of hind coxæ; vertex a little narrower than the combined diameter of eyes. *Pronotum* not narrowed forward, sides convex, but dilated; front angles separated from eyes, produced in a tooth behind which is another tooth; posterior angles foliaceous, very prominent. *Tegmina* vitreous, tinged with golden bronze; basal area narrow, more than twice longer than broad; costa and radial veins separated; ulnar veins nearly contiguous toward base; interior ulnar area narrowed toward apex; exterior ulnar, and third discoidal areas, broad; postcostal marginal space broadened towards apex; nine apical areas, and three discoidal. *Wings* vitreous, tinged with golden bronze; six apical areas. *Abdomen* robust, obconical, a little longer than combined length of head and pronotum; below on each side of middle is a row of prominent

carinæ. Opercula short, distant, apical border broadly rounded. Front femora spined below.

Type, *V. superba*, sp.nov.

**VENUSTRIA SUPERBA*, sp.nov. (Plate xix., figs. 7-7a.)

Head sordid greenish-fuscous, a narrow pale green stripe starting from middle of vertex passing between ocelli curves to base of each antenna; front convex, prominent, green, a median stripe and striations ferruginous, sides of face green narrowly bordered with yellow; clypeus green, a yellow spot on apex, base ferruginous on each side of which is a tubercle; rostrum yellow, tip black, reaching base of hind coxæ. *Pronotum* pale ferruginous, an hourglass-shaped median stripe enclosing a narrow pale green stripe, spot on each side, furrows, inner edge of lateral borders, fuscous; lateral and posterior borders broad, bright green, front angles toothed, hind angles broad, almost foliaceous. *Mesonotum* pale ferruginous, with four obconical excavated stripes bordered with pale yellow, the inner pair pale ferruginous and shorter, outer pair fuscous, a broad stripe on lateral borders and cruciform elevation bright green excepting a narrow short fuscous line on extreme base on each side of the latter. *Tegmina* vitreous, tinged with beautiful golden bronze; space between costa and radial vein green on basal half thereafter ferruginous, these veins reddish; veins green toward base, fuscous near apex, posterior border of clavus black; basal membrane ferruginous. *Wings* in colour similar to tegmina, veins brown. *Abdomen* ferruginous, covered with golden silky pubescence; excepting the basal, all segments with apical edges narrowly fuscous, a row of ferruginous spots on each side near lateral border, apex concolorous; sides of abdomen near base clouded with green, tip yellow. *Body* below: chest is green, opercula fuscous-green; abdomen sordid yellow with a broad central stripe and lines between segments on each side fuscous; the lateral carinæ are shining fuscous; anal appendage fuscous. *Legs* pale yellow, front femora, and apex of tibiæ lightly marked with ferruginous. Long. corp. 26-28 mm.; lat. 9 mm.; exp. teg. 80-86 mm.

Hab.—Kuranda, Q.; four males and four females, collected by Dodd (Coll. G. & F.).

This undoubtedly is the most beautiful member of the family yet described, and no printed description could do it justice. In some of the examples the green is displaced by pale ferruginous.

Genus *TIBICEN*, Latr.

1825. *Fam. Nat.* p. 426.

1866. *Stäl, Hemip. Afric.* iv. p. 8.

Body oblong. *Head* varies in width, rarely broader than front of pronotum; front moderately convex, occupying more than one-half the width of face, with a longitudinal sulcus; apex of clypeus subacuminate or lightly truncate. Rostrum short or medium. Ocelli remote from base of head. *Pronotum* with sides rarely a little flattened out, frequently convex; broadened posteriorly. *Tegmina* vitreous, costal margin not or towards base lightly dilated; ulnar veins frequently distant, never contiguous; interior ulnar area lightly dilated towards apex; eight apical areas. Wings vitreous, with six apical areas.

Last ventral segment of female deeply and broadly emarginate. Opercula small or medium, not overlapping, rarely contiguous. Front femora spined below.

Type.

SYNOPSIS OF SPECIES.

- 1(10). *Tegmina* immaculate.
- 2 (7). Abdomen yellow.
- 3 (4). First and last abdominal segments black, margined with yellow..... *melanopygius*.
- 4 (3). First and last abdominal segments concolorous.
- 5 (6). Ocelli nearer to each other than to eyes; dorsum of abdomen with a scarlet stripe..... *occidentalis*.
- 6 (5). Ocelli nearer to eyes than to each other; abdomen immaculate..... *flavus*.
- 7 (2). Abdomen black.
- 8 (9). Lateral margins of pronotum armed with a tooth..... *rubricinctus*.
- 9 (8). Lateral margins of pronotum unarmed..... *infans*.
- 10 (1). *Tegmina* with fuscous markings.

- 11(32). Fuscous markings on tegmina on first three apical areas only.
- 12(17). Tegmina tinged with bronze.
- 13(14). Wings with apex of anal area infuscated. *auratus*.
- 14(13). Wings with apex of anal area not infuscated.
- 15(16). Abdomen black, apical margins of segments yellow.. *coleopratus*.
- 16(15). Abdomen ochraceous, base of anal appendage broadly black..... *doddi*.
- 17(12). Tegmina not tinged with bronze.
- 18(27). Wings with apex of anal area not infuscated.
- 19(22). Lateral margins of pronotum with a tooth at middle.
- 20(21). Body densely covered with long black hairs; apical margins of abdominal segments with golden hairs... *hirsutus*.
- 21(20). Body with a few scattering hairs; abdomen destitute of golden hairs..... *borealis*.
- 22(19). Lateral margins of pronotum unarmed.
- 23(26). Abdomen fuscous below.
- 24(25). Anal appendage below black..... *kurandæ*.
- 25(24). Anal appendage below yellow..... *gregoryi*.
- 26(23). Abdomen pale ochraceous below, with transverse fuscous fasciæ..... *muelleri*.
- 27(18). Wings with apex of anal areas infuscated
- 28(29). Disc of wings with a black spot..... *curvicosta*.
- 29(28). Disc of wings immaculate.
- 30(31). Pronotum red, with a broad, distinct, yellow median stripe. *ruber*.
- 31(30). Pronotum ochraceous, with a broad, distinct, median black stripe *willsi*.
- 32(11). Tegmina with tips of longitudinal veins and bases of apical areas infuscated.
- 33(34). Abdomen testaceous, apical borders yellow; veins fuscous *gilmorei*.
- 34(33). Abdomen black, apical borders paler; venation yellow.
- 35(36). Front very convex, abdomen below black, last segment and anal appendage testaceous..... *burkei*.
- 36(35). Front very lightly convex, abdomen ferruginous below. *interruptus*.

*TIBICEN CURVICOSTA, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 66.
1838. *Cicada tephrogaster*, Boisd., Voy. d'Astr. Ent. p. 611, pl. 10, fig. 5.
1903. Frogg., Agr. Gaz. N.S.W. p. 418, and Misc. Pub. No. 643, p. 8, pl. 2, fig. 4.

Body covered with floury tomentum, ferruginous. *Head* short, obtusely rounded in front, ferruginous; eyes prominent, dark and light ferruginous, front border and region of ocelli black, a yellow spot at base of vertex. *Pronotum* pale ferruginous, a median yellow stripe bordered on each side with black stripe which is very much widened at base and apex, the sutures also black; front angles rectangularly prominent, the tip and a spot on lateral borders black. *Mesonotum* ferruginous, with a percurrent median stripe, a shorter stripe on each side, a spot on cruciform elevation, and scutellum, yellow. *Tegmina* vitreous, costa ferruginous and strongly curved; venation ferruginous, piceous towards apex; basal area opaque, yellow; a spot at union of ramus of postcostal ulnar vein and costa, the two exterior anastomoses, and a spot on the tip, fuscous; veins and costa floury pubescent. Wings vitreous, vein fuscous, exterior vein and apex of anal area, and a spot on disc, fuscous. *Abdomen* ferruginous, some piceous spots on dorsum and sides; dark ferruginous below, floury tomentum everywhere. Opercula large, reniform, pale, not contiguous. *Legs* yellow, tibiæ darker. Long. corp. ♂ 30 mm., ♀ 35 mm.; exp. teg. ♂ 100 mm., ♀ 110 mm.

Hab.—Australia (Germar); Sydney.

This is a common species in the neighbourhood of Sydney in midsummer, and is known as the "Floury Miller" on account of the quantity of silvery pubescence covering the body, which makes it look as if it had been dusted with flour. It arrives somewhat later than the other large cicadas, emerging in December and is most plentiful about the new year; it has a wide range just round Sydney, both in our gardens and bush lands.

**TIBICEN RUBER*, sp. nov.

Head pale red, darker in region of ocelli and sides of front border, a yellow spot on base of vertex; front pale red, sides of face yellow and very hairy, clypeus pale red; rostrum pale red, reaching middle coxæ. *Pronotum* red, hairy, a broad central stripe bordered with black, these borders diverging at each end laterally, posterior border sordid yellow on each side; lateral

borders sinuous, front angles produced. *Mesonotum* red, lateral borders and disc darker, with three obsolete pale red lines on disc, the outer pair curved. *Tegmina* vitreous, costa red on basal half with outer edge pale red; veins reddish, bases of second and third apical areas infuscated, the first area lightly so; basal membranes pale red. Wings with veins pale red, anal area infuscated at base and apex. *Abdomen* red, hairy along sides. *Body* below pale red; opercula broad, reniform, nearly touching, apical borders broadly curved, pale. *Abdomen* darker red with an irregular median fuscous stripe; covered with whitish tomentum. Long. corp. ♂ 22 mm., ♀ 27 mm.; lat. 9 mm.; exp. teg. ♂ 60 mm.; ♀ 80 mm.

Hab.—Rockhampton and King's Sound, N.W.A; described from several examples in the Macleay Museum.

Like *T. curvicosta*, this species is densely covered with floury tomentum.

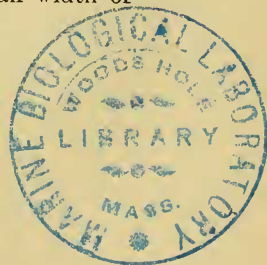
*TIBICEN MELANOPYGIUS, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 59.

1861. Stäl, Ann. Ent. Soc. Fr. p. 618.

Head and front of pronotum equal in width; front subdepressed, obtuse; black, a yellow spot on vertex. *Pronotum* black, middle line, posterior margin and lateral spots, yellow; lateral margins lightly carinated, parallel, posterior border narrow. *Mesonotum* black, two stripes on dorsum and two lateral stripes, yellow. Scutellum yellow. *Tegmina* vitreous, venation fuscous, costa pale; ulnar veins strongly approaching towards base, not contiguous; interior ulnar area a little broader at middle, base and apex equally broad. *Abdomen* yellow, first and last segments black, margined with yellow, the others with a short black stripe on dorsum; anal segment in male below oval; opercula of male reniform, short, pale; middle femora black; appendix of posterior trochanters triangular, apex acute, barely longer than width of base. Long. corp. 19 mm.; exp. teg. 50 mm.

Hab.—Australia (Germar); Queensland.



**TIBICEN INTERRUPTUS*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 175.

Head a little broader than pronotum, black, with two tawny spots on hind border near ocelli; front very slightly convex, with a tawny spot and stripe; rostrum tawny, tip black, reaching hind coxæ. *Pronotum* rather short, tawny, black spots on each side of furrows; hind border tawny along posterior edge. *Mesonotum* ferruginous on each side, with one ferruginous and two tawny stripes, the latter straight and longer than former; cruciform elevation tawny. *Tegmina* vitreous, long, narrow, tawny at base, and along costa; veins yellow, a slender brown band extends from tip, embracing first apical area, over the anastomoses, excepting the vein between the fourth and fifth. Wings vitreous, venation yellow. *Abdomen* obconical, longer than thorax, black, ferruginous below; apical borders of segments ferruginous; opercula small, piceous, nearly contiguous. *Legs* piceous, marked with ferruginous and tawny. Long. corp. 17 mm.; exp. teg. 45 mm.

Hab.—New Holland (Walker).

**TIBICEN DODDI*, sp. nov.

Head triangularly produced in front, ochraceous, with two short stripes, in which are the ocelli, two lateral spots on disc, three stripes on each side united toward disc running to front border, black; front ochraceous, with a narrow stripe on each side of middle, the striations, a stripe on each side of face, black; rostrum ochraceous with a median line and tip black, passing hind coxæ. *Pronotum* much narrower in front than head, broadened posteriorly, the lateral and posterior borders somewhat dilated; ochraceous, with two narrow median stripes not reaching hind border, three submarginal spots on each side, and front edge of posterior border, black. *Mesonotum* ochraceous, somewhat pubescent, with four obconical infuscated stripes, inner pair shorter and bordered with black, outer pair obsolete, two spots in front of cruciform elevation, and two short narrow discal stripes, black. *Tegmina* vitreous and tinged with bronze, costa, basal area, and veins of basal portion, ochraceous, apical venation, a large spot on apex,

and base of first apical area, broadly fuscous; the postcostal marginal area broadened toward apex. Wings vitreous, very lightly tinged with bronze, veins ochraceous darker toward apex. *Abdomen* length of thorax, ochraceous, covered with golden pubescence, a spot on base of first and second segments, apical borders of last three segments very narrowly, and anal appendage, black, the latter with a short transverse ochraceous band. The tympana are situated obliquely, widely separated, and rather narrow. *Body* below: chest ochraceous, covered with white pubescence; opercula broad, approaching, apical border broadly rounded, not reaching apical border of mesosternum, infuscated; abdomen black, sides of basal segment sordid ochraceous, covered with dense white pubescence. *Legs* ochraceous, femora streaked with ferruginous. Long. corp. 25 mm.; lat. 9 mm.; exp. teg. 80 mm.

Hab.—Kuranda, Q. Eleven males and five females (collected by Dodd).

This species is nearly allied to *Venustria superba*, but differs in the presence of eight apical areas in the tegmina, etc.

*TIBICEN RUBRICINCTUS, sp.nov.

Black, striped with red. *Head* long, strongly produced forward, black (with a faint tinge of red), a median percurrent stripe, spot on each side near eyes, and spot at base of antennæ, pale red; front convex, black, borders and spot on base pale red, face black, covered with long white hairs; rostrum reddish-black, base pale red, tip reaching middle coxæ. *Pronotum* in front a little narrower than head, lateral borders sinuous and armed with a tooth at middle, front angles prominent; black; front border, median line, a sinuous transverse band posteriorly, stripe on each side near lateral borders, spots on each side, and posterior edge, pale red. *Mesonotum* black, two triangular spots on disc, a central line anteriorly, lateral borders, and sides of cruciform elevation, pale red. Scutellum pale red, a black spot on each side, and one on disc. *Tegmina* with basal half of costa, anterior border of clavus, and basal membranes pale red, venations otherwise fuscous red. Wings with veins and basal membranes red;

anal area largely infuscated. *Abdomen* black, front border of sound cavities, hind borders of segments, and anal appendage, orange red; tympana pale. Abdomen is robust, equal in length to thorax. *Body* below black, streaked with pale red; opercula small, distant, pale, the basal half black. *Legs* fuscous streaked with pale red; abdomen orange yellow with a broad, well-defined stripe (not including posterior segmental margins), fuscous, which does not reach anal appendage. Long. corp. 26 mm.; lat. 8 mm.; exp. teg. 65 mm.

Hab.—Australia; described from several examples in the Macleay Museum.

This is the most gaily coloured member of the genus, superficially resembling some of the larger *Melampsaltæ*.

**TIBICEN BOREALIS*, sp. nov.

Black, marked with red. *Head* black, with a light red spot at base of vertex; front black, lightly convex, lateral borders pale red, sides of face black, with long white hairs; rostrum dark red, base pale red, tip reaching base of middle coxæ. *Pronotum* in front width of head, lateral borders sinuous and armed with a tooth at middle; black, a median stripe pale red, portion of front border, lateral and posterior edges, narrowly red. *Mesonotum* black, lateral borders narrowly, disc of cruciform elevation, apex, and two large irregular spots on disc, pale red. *Scutellum* pale red, with a black spot on disc. *Tegmina* vitreous, the costa and basal membranes red, veins black, first two anastomoses near apex densely and broadly infuscated. Wings with borders of clavus white, basal half of venation pale red, apical portion fuscous; anal area infuscated, not reaching apex; basal membranes red. *Abdomen* black, tympana pale, their borders red and hairy; posterior segmental margins bright red, with a yellow spot on each side of last segment; anal appendage yellow, disc black. *Body* below: chest black, striped with pale red; opercula medium, broad, semicircular, touching, pale yellow; abdomen pale red, base of segments reddish-fuscous. *Legs* yellow, marked with fuscous. Long. corp. 20 mm.; exp. teg. 46 mm.

Hab.—King George's Sound, W.A.; several examples in the Macleay Museum.

*TIBICEN GILMOREI, Dist.

1882. P.Z.S.L. p. 127, pl. 7, fig. 8.

♂. Body above testaceous. *Head* castaneous, vertex darker than front, area of the ocelli blackish. *Pronotum* with a central fuscous longitudinal fascia, base wide and triangular, hind margin fuscous, posterior edge pale ochraceous. *Mesonotum* with two central obconical spots bordered with ochraceous, a curved fascia on each side of disc connected with anterior branches of cruciform elevation ochraceous, a lateral black fascia bordered outwardly and inwardly with ochraceous; basal elevation ochraceous, a black spot at centre and one on each branch near apex. *Tegmina* and wings pale hyaline; veins fuscous, anastomoses and connecting longitudinal veins (excepting that before the last anastomosis) infuscated, apices of longitudinal veins narrowly infuscated. *Abdomen* sparingly pilose, posterior segmental margins ochraceous. *Body* beneath and legs ochraceous; face castaneous; disc of abdomen castaneous, posterior segmental margin pale, anal appendage with a central longitudinal fuscous streak. Body short; front of head produced and prominent, face long, convex, rostrum reaching posterior coxæ; opercula small. Long. corp. 18 mm.; exp. teg. 60 mm.

Allied to *T. interrupta*, Walk., but larger, body shorter and more robust; front much more produced.

Hab.—Swan River, Aust. (Distant). One male in the collection of the Public Museum, Adelaide, collected by Mr. J. G. Tepper, has the venation yellow in places.

*TIBICEN KURANDÆ, sp. nov.

Head ochraceous, lateral borders, large irregular spot on vertex, black; front convex, ochraceous, a median stripe divided at apex does not reach base or apex of front; sides of face ochraceous, with a broad black stripe; clypeus ochraceous, with a median fuscous stripe; rostrum tawny, tip fuscous, passing far beyond hind coxæ; covered with dense white floury tomentum. *Pronotum* ochraceous, two curved central stripes which do not reach posterior border, a spot behind each eye, a submarginal stripe on

each side, spot on each posterior angle, and front edge of posterior border, black. *Mesonotum* castaneous, darker in front of cruciform elevation, in front of which are two black dots, two obconical black spots on disc, their centre castaneous, lateral and posterior borders with cruciform elevation tawny. *Tegmina* vitreous, costa and veins tawny on basal half, fuscous on apical portion; the two exterior anastomoses broadly infuscated, which extends on anterior border of first apical area. Wings with veins tawny, at apex fuscous. *Abdomen* sordid ochraceous, paler at base, base of anal appendage rich dark brown, tip tawny. *Body* below covered with dense white tomentum, pale tawny; opercula small, triangular, distant, apical half fuscous; abdomen fuscous, posterior edges of segments tawny, covered with floury tomentum. *Legs* tawny, stripes on femora, knees, tips of tibiæ, those of tarsi, fuscous. Long. corp. ♂ 18 mm., ♀ 16 mm.; exp. teg. ♂ 50 mm., ♀ 55 mm.

Hab.—Kuranda, Q.; described from many examples collected by Dodd (Coll. G. & F.).

**TIBICEN AURATUS*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 215.

Thickly clothed with golden hairs. *Head* width of front of pronotum; black, a spot on base of vertex, one in front of each eye, and one on base of front, ochraceous; front dark ferruginous, with its lateral borders ochraceous; rostrum pale yellow, tip black, reaching middle coxæ. *Pronotum* black, front, lateral and hind borders, a short median stripe, and two spots at hind border, ochraceous; lateral border armed at middle with a tooth. *Mesonotum* black, with two discal stripes which are dilated in middle, lateral and hind borders, and a spot on each side of cruciform elevation, ochraceous. Scutellum ochraceous. *Tegmina* vitreous, costa red, basal half of venation ochraceous, apical half fuscous; 1st and 2nd anastomoses black. Wings vitreous, venation on basal half yellow, apical portion black; apex of anal area broadly infuscated. *Abdomen* velvety black, apex and sides with golden pubescence. *Body* below yellow, abdomen with sides and

a median broad stripe black; opercula pale pink, small, wide apart. *Legs* yellow, front tibiæ, and streaks elsewhere, black. Long. corp. 19-23 mm.; exp. teg. 40-54 mm.

Hab.—Tasmania (Walker); Melbourne, Vic.; Clyde River, Currie Creek, Moruya, N.S.W.

This handsome little cicada is found in fern-tree gullies, and in such localities in Gippsland and Tasmania is common in the summer, having a sharp distinctive call-note.

**TIBICEN HIRSUTUS*, sp.nov.

Black, covered with long black hairs. *Head* black, a spot on base of vertex and three spots on front border ochraceous, covered with long black hairs; front strongly convex, prominent, a spot at base, and borders ochraceous, covered with long black hairs; rostrum fuscous-ferruginous, hairy, reaching tips of middle coxæ; ocelli equidistant from each other and eyes. *Pronotum* black, covered with long black hairs, narrower in front than head, sides broadly convex, expanded at middle in a large, flat, acuminate tooth on each side; a narrow median stripe and a spot on each side of fore border ochraceous; hind angles very prominent; hind border median. *Mesonotum* black, lateral borders and two small spots on disc ochraceous; covered with black hairs. *Tegmina* broad, short, anterior ulnar area with apex double the width of base; venation pale ferruginous, lightly marked with fuscous, the two exterior anastomoses infuscated. Wings with veins ochraceous, marginal vein black; anal area milky towards base, the apex not infuscated; tegmina and wings have a bluish opalescent tinge. *Abdomen* stout, as long as head and thorax, covered with short black hairs which create an appearance of velvet, anal borders of segments dark ochraceous and covered with golden hairs. *Body* below; chest black, covered with long black hairs and with ochraceous lines; opercula broad, a little distant, hind border broadly rounded, fuscous. *Abdomen* black, hind borders of segments dark ochraceous. *Legs* black marked with yellow, hind tibiæ yellow. Long. corp. 25 mm.; lat. 9 mm.; exp. teg. 51 mm.

Hab.—South Australia; one male in the Macleay Museum.

This species, which resembles *T. aurata*, is much larger, apex of anal appendage not infuscated, and is covered with long black hairs.

**TIBICEN COLEOPTRATUS*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 223.

Head narrower than apex of pronotum; black, with a short median stripe, and sides of front border, yellow; front black, lateral borders and sides of face ferruginous; rostrum tawny, tip black, reaching apex of middle coxæ. *Pronotum* fuscous, front and lateral borders, and sometimes an obsolete median stripe, with outer portion of posterior border, yellow. *Mesonotum* fuscous-black, lateral borders and scutellum yellow; sides and cruciform elevation with yellow hairs. *Tegmina* vitreous, tinged with golden bronze; short; costa red, venation piceous; postcostal marginal space percurrently broad; bases of first, second and third apical areas and clavus infuscated. *Wings* vitreous, tinged with brown near base; venation yellow. *Abdomen* black, hind borders of segments narrowly edged with dark yellow. *Body* below yellow; chest variegated with fuscous; abdomen broadly banded with fuscous; opercula short, broad, not touching at inner borders. *Legs* yellow; femora, tips of tibiæ, and tarsi, piceous. Long. corp. 15 mm.; exp. teg. 30 mm.

Hab.—Victoria; S. Australia; several examples in the National Museum, Melbourne, and the Macleay Museum, Sydney.

**TIBICEN OCCIDENTALIS*, sp. nov.

Head much depressed, yellow, with a fuscous band passing across head between eyes; ocelli much nearer to each other than to the eyes; front very prominent, convex, with a median sulcus not reaching apex, sides of clypeus and a spot on each side at base of face fuscous; rostrum yellow, reaching middle coxæ; antennæ fuscous. *Pronotum* yellow, narrower than head, sides parallel, hind angles barely evident, hind border medium; disc with a reddish broad median stripe. *Mesonotum* yellow, the disc darker, with two obconical fuscous stripes at middle of base,

an obsolete one on each side, a fuscous spot in front of cruciform elevation. *Tegmina* and wings with veins yellow; apex of interior ulnar area a little broader than base. *Abdomen* yellow, short, with a bright scarlet median stripe broadest at base gradually attenuated to apex which does not reach tip of abdomen. *Body* below yellow; opercula pale yellow, oval, rather long, a little distant, semicircular at apical border. *Legs* yellow. Long. corp. 13 mm.; exp. teg. 36 mm.

Hab.—West Australia; one male, in the Macleay Museum.

*TIBICEN WILLSI, Dist.

1882. P.Z.S.L. p. 127, pl. 7, fig. 4.

♀. *Body* above black. *Head* with the apex testaceous, the ocelli red. *Pronotum* with three large confluent ochraceous spots on each side, narrowly separated at centre, almost extending to lateral margins. *Mesonotum* black, with two very obscure obconical spots; basal cruciform elevation dull ochraceous. *Tegmina* and wings pale hyaline; tegmina with venation fuscous, costal membrane, basal and claval areas ochraceous, transverse veins at base of second and third apical areas, with connecting longitudinal vein, infuscated; wings with basal and claval areas ochraceous. *Abdomen* black, the apical segmental margins testaceous; anal appendage obscure pitchy-testaceous. *Body* below and legs pale testaceous; head between face and eyes black; lateral margins of sternum spotted with fuscous, a lateral abdominal segmental row of transverse spots of same colour. The face is very convex, narrowly and longitudinally sulcated, sides transversely striated, rostrum reaching posterior coxæ; posterior lateral angles of pronotum somewhat acutely amplified and produced. Long. corp. 20 mm.; exp. teg. 53 mm.

Hab.—Peak Downs, Queensland; Sydney (Distant); Cairns, Townsville, Q.; Bourke, N.S.W.; King's Sound, N.W.A.

♂. Opercula pale ochraceous, margin somewhat paler, reaching base of first abdominal segment, slightly directed inwardly, inner margins rounded, produced, but considerably apart, posterior margins wide, very slightly rounded.

*TIBICEN BURKEI, Dist.

1882. P.Z.S.L. p. 126, pl. 7, fig. 3.

♂. *Head* castaneous, area of ocelli and two spots at base black, base ochraceous, more or less margined with black. *Pronotum* ochraceous, with a central hourglass-shaped fuscous fascia, its centre longitudinally ochraceous; on each side of disc is a small black curved fascia; oblique striæ, inner borders of lateral margins, lateral angles, and anterior border of posterior margin blackish. *Mesonotum* black, a small central angulated spot on disc, laterally a waved and angulated fascia, joined to anterior branches of basal cruciform elevation, followed by a straight sub-lateral fascia, ochraceous; cruciform elevation ochraceous. *Tegmina* and wings pale hyaline; tegmina with costal membrane and basal portion of venation ochraceous, costal area fuscous, anastomoses infuscated. *Abdomen* black, sparingly pilose; posterior margin of apical segment and anal appendage testaceous. *Below*: head, sternum and opercula ochraceous and pubescent, the last with disc fuscous, posterior margin narrowly ochraceous. Face castaneous, the centre black. Front legs ochraceous, femora streaked with fuscous; base of tibiæ and apex of tarsi fuscous, apical half of tibiæ castaneous. Middle and hind legs and coxæ luteous; femora pitchy, apices luteous; middle tibiæ castaneous, base ochraceous. *Abdomen* beneath black, apical segment and anal appendage testaceous. Rostrum passes apices of hind coxæ; face with sides transversely striated, its width about equal to distance from its lateral margin to inner margin of eyes; opercula not covering apical margin of metasternum, posterior margins broadly rounded. Long. corp. 21 mm.; exp. teg. 65 mm.

Hab.—Peak Downs, Queensland (Distant); Port Denison, Rockhampton, Q.

*TIBICEN FLAVUS, sp. nov.

Yellow, or pale greenish-yellow. *Head* width of pronotum in front, front border convex; ocelli red, a little nearer to eyes than to each other; front convex, prominent, with a median sulcus which does not reach apex; rostrum reaches tips of middle coxæ.

Pronotum with sides parallel, front angles prominent forward, hind angles laterally prominent; hind border narrow. *Tegmina* a little longer than abdomen, its veins and those of wings yellow; interior ulnar area with base and apex equally broad. *Abdomen* a little longer than head and thorax; opercula broad, very short, barely evident. Tibiæ red. Long. corp. 15 mm.; exp. teg. 40 mm.

Hab.—Cairns, Endeavour River, Q.; described from several examples in the Macleay Museum (possibly *C. congrua*, Walk.).

*TIBICEN GREGORYI, Dist.

1882. P.Z.S.L. p. 129, pl. 7, fig. 7.

♂. Body above pale ochraceous. *Head* with ocelli reddish, eyes tinged with fuscous. The head is broad, and, including eyes, width of pronotum, of which the anterior and posterior width is subequal. The face is large, elongate, and very convex, with faint transverse striations; rostrum reaches posterior coxæ. *Mesonotum* with two obscure central obconical spots, a central discal longitudinal and two sublateral fasciæ. *Tegmina* and wings pale hyaline; tegmina with venation ochraceous; apical longitudinal veins and apical margins of apical areas, pale fuscous; transverse veins at bases of second and third apical areas broadly infuscated. *Abdomen* covered with greyish pilosity. *Body* beneath and legs ochraceous; abdomen pale fuscous. Opercula small, broad, rounded posteriorly, reaching posterior edge of metasternum. Long. corp. 10 mm.; exp. teg. 34 mm.

Hab.—Peak Downs, Queensland (Distant).

“This species is allied to *T. muelleri*, Dist., from which it differs in the broader and less anteriorly produced head, the shape of the pronotum, and in the different markings of the tegmina, abdomen, etc.” (Distant).

*TIBICEN MUELLERI, Dist.

1882. P.Z.S.L. p. 128, pl. 7, fig. 6.

♀. Body above ochraceous. *Head* with two small spots at base of front, a spot near anterior lateral angle of vertex, and area of ocelli fuscous; eyes tinged with fuscous. *Pronotum* with

two central longitudinal black fasciæ sinuated at centre and meeting on anterior and posterior margins; a small oblique fascia commencing from behind eyes and terminating on lateral margins also fuscous. *Mesonotum* with two small obconical spots, inwardly margined with fuscous, and an elongate fuscous spot on disc in front of cruciform elevation. *Tegmina* and wings pale hyaline; tegmina with costal membrane and basal half of venation ochraceous, transverse veins at bases of first and second ulnar areas, anastomoses with some of the connecting venation, apical longitudinal veins, apical margins of apical areas, and claval margin fuscous; transverse veins at bases of second and third apical areas broadly infuscated. Scutellum with a central fuscous spot, continued and narrowed on the first three segments of the abdomen; anal appendage with a large fuscous spot on each side. *Body* beneath and legs pale ochraceous, abdominal segments with a transverse series of broad fuscous fasciæ. The head has the front prominently produced; its width less than that of base of pronotum; the face is large, elongate, very convex, with a faint longitudinal impression, and somewhat obscure transverse striations; rostrum reaches posterior coxæ. Long. corp. 11 mm.; exp. teg. 38 mm.

Hab.—Peak Downs, Queensland (Distant); Port Denison, Rockhampton, and Endeavour River, Q. (Macleay Mus.); Cairns, Q. (Dodd.)

**TIBICEN INFANS*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 201.

Head black, yellow pubescent; a median stripe yellow; front with a central basal spot, and lateral borders yellow; rostrum tawny, tip black, reaching middle coxæ. *Pronotum* black, front and lateral borders, and a central stripe, yellow; narrowed towards front which is a little narrower than head. *Mesonotum* fuscous-ferruginous, with two longitudinal stripes on disc which are broadened posteriorly, lateral borders and apex except a fuscous spot on cruciform elevation yellow; scutellum yellow, a fuscous spot on middle. *Tegmina* vitreous, short, tawny at base, costa,

and costal area tawny, the latter bordered with fuscous; venation ferruginous; postcostal marginal space percurrently quite broad, and somewhat opaque. Wings vitreous; venation yellow, central vein of anal area fuscous. *Abdomen* longer than the united length of head and thorax, fuscous, hind borders of segments yellow which widen towards yellow tip, where sides are largely yellow. *Body* below yellow; chest variegated with black; abdomen with a median fuscous stripe which reaches middle; opercula rather long, broad, inner edges contiguous, pale yellow. *Legs* yellow, front tibiae and tarsi, and streaks on femora, fuscous. Long. corp. 11-14 mm.; exp. teg. 25-30 mm.

Hab.—Adelaide, South Australia (Walker).

Genus GÆANA, Am. et Serv.

1843. Hémip. p. 463.

1866. Stål, Hemip. Afric. iv. p. 4.

Head broader than front of pronotum, front strongly swollen forward, destitute of a longitudinal sulcus; ocelli double the distance from the eyes as from each other, distant from base. *Pronotum* convex, not laterally expanded, front angles directed below eyes. *Tegmina* opaque, coloured, basal area broad, not more than twice longer than broad; ulnar veins distant at base; interior ulnar area broadened towards apex; costa and radial vein distant; eight apical areas. Wings opaque, coloured, with six apical areas. Front *femora* spined below.

Type, *Tettigonia maculata*, Fabr.

*GÆANA MACULATA, Drury. (Plate xviii., figs. 4, 4a, 4b.)

1773. *Cicada* id., Drury, Ins. ii. p. 69, pl. 37, fig. 1.

1790. *Cicada* id., Oliv., Enc. Méth. v. p. 750, pl. 112, fig. 2.

1808. *Tettigonia* id., Syst. Rhyng. p. 37.

1834. *Cicada* id., Germ., Silb. Rev. Ent. ii. p. 74.

1840. *Cicada* id., Blanch., Hist. Nat. Ins. iii., Hémip. p. 165, pl. 10, fig. 3.

1843. *Gæana* id., Am. et Serv., Hémip., p. 464.

1850. *Gæana consors*, White, Proc. Zool. Soc. p.

Black; head with a yellow spot on each side of vertex. *Pronotum* immaculate. *Mesonotum* with a transverse row of four yellow spots, sometimes two in front of these, a spot of the same colour on each side of cruciform elevation. *Tegmina* black, with two spots near base, three across middle, two behind these, yellow, the apical areas mostly pale. Wings black, a basal spot and some of apical areas yellow. *Abdomen* black. *Body* below dark brown, with two rows of yellow spots; apical edges of segments above narrowly bordered with yellow. Long. corp. 30-35 mm.; exp. teg. 90 mm.

Hab.—China (Fabricius); Northern Territory, S.A.; three examples, collected by Mr. J. G. Tepper (South Australian and Macleay Museums).

Genus HUECHYS, Am. et Serv.

1843. Hémip. p. 464.

1866. Stål, Hemip. Afric. iv. p. 4.

Head rather small, as broad as front of pronotum; front triangularly produced, with a distinct, abbreviated median, longitudinal sulcus. *Body* slender. Sides of *pronotum* convex, not laterally dilated, front angles directed below the eyes. *Tegmina* entirely opaque, coloured; ulnar veins distant at base; interior ulnar area a little broadened towards apex; eight apical areas. Wings vitreous or opaque and coloured, with six apical areas. *Abdomen* elongated.

Type *Cicada sanguinea*, De Geer.

The number of apical areas of the tegmina seems to vary, as in three species before us, *vidua*, has nine; *sanguinea* eight; and *philemata* has nine in one, and ten in the other.

*HUECHYS VIDUA, White. (Plate xviii., figs. 10, 10a, 10b.)

1846. Ann. Mag. Nat. Hist. p. 332.

Head black, front very prominent, gamboge yellow. *Pronotum* black. *Mesonotum* black, with two large gamboge yellow spots. *Tegmina* uniform blackish-brown. Wings vitreous, tinged with brown around edge. *Abdomen* black, the middle, tip, and

beneath vermilion red; in the female laterally, near the tip, also red. Long. corp. 25 mm.; exp. teg. 45-58 mm.

Hab.—New Holland (White).

♀. Var. Two or three lighter streaks on tegmina near posterior margin. One female in the National Museum, Melbourne.

Genus PAUROPSALTA, gen.nov.

Head width of or a little broader than front of pronotum; vertex about twice the width of eyes, ocelli about equidistant from each other and eyes; front convex, with a median sulcus more or less distinct. *Pronotum* with sides parallel or narrower in front, lateral margins obtuse, sometimes a little flattened out. *Tegmina* with basal area quadrangular, frequently longer than broad; ulnar veins at base contiguous or united; eight apical areas. Apex of last ventral segment of the *abdomen*, in the female, deeply and broadly emarginate. Opercula small or medium. Front *femora* with three spines below.

Type *P. leurensis*, sp.nov.

SYNOPSIS OF SPECIES.

- 1(24). Apex of anal area infuscated.
 2(11). Abdomen not black.
 3 (8). Tegmina with two contiguous ulnar veins.
 4 (5). Base of abdominal segments fuscous..... *borealis*.
 5 (4). Base of abdominal segments not fuscous.
 6 (7). Basal, and base of apical segment only, fuscous..... *extrema*.
 7 (6). Basal, and base of apical segment, concolorous..... *extensa*.
 8 (3). Tegmina with one ulnar vein.
 9(10). Abdomen with apical segmental margins yellow..... *castanea*.
 10 (9). Abdomen with row of transverse bands on disc..... *nigristriga*.
 11 (2). Abdomen black.
 12(17). Venation pale.
 13(14). Body long, slender..... *prolongata*.
 14(13). Body normal.
 15(16). Wings with fuscous spot on apex of anal area distinct *encaustica*.
 16(15). Wings with fuscous spot on anal area obsolete..... *multifascia*.
 17(12). Venation black.
 18(19). Costa black..... (♂) *leurensis*.
 19(18). Costa pale.

- 20(21). Basal segment of abdomen wholly black..... *annulata*.
 21(20). Basal segment of abdomen with apical border pale.
 22(23). Apical borders of abdominal segments distinctly red. (♀) *leurensis*.
 23(22). Apical borders of abdominal segments very pale..... *mneme*.
 24 (1). Apex of anal area not infuscated.
 25(32). Abdomen black.
 26(27). Costa with a node near apex of radial area..... *nodicosta*.
 27(26). Costa destitute of a node.
 28(29). Apical margins of abdominal segments pale..... *duaia*.
 29(28). Apical margins of abdominal segments distinctly red
 or yellow.
 30(31). Interior border of tegmina black; abdomen normal.. *incipiens*.
 31(30). Interior border of tegmina pale; abdomen swollen... *puer*.
 32(25). Abdomen yellow or red.
 33(36). Abdomen immaculate.
 34(35). Pronotum with black stripes... .. *minima*.
 35(34). Pronotum immaculate..... *sericeivitta*.
 36(33). Abdomen more or less marked with black.
 37(40). Base of abdominal segments with transverse fuscous
 bands.
 38(39). Fuscous abdominal bands obsolete; pronotum
 mostly black..... *rubra*.
 39(38). Fuscous abdominal bands on dorsum distinct *leichardti*.
 40(37). First abdominal segment only black.
 41(42). Basal abdominal segment narrowly black..... *basalis*.
 42(41). Basal abdominal segments entirely black, a narrow
 black stripe along middle of dorsum..... *emma*.

**PAUOPSALTA LEURENSIS*, sp.nov. (Plate xviii., figs. 8, 8a).

Head reddish-fuscous, a yellow spot at base of vertex, front border shining black; front black, bordered with red; rostrum black, reaching middle coxæ. *Pronotum* reddish-fuscous, a central stripe, part of hind border, and produced front angles, red; width of head. *Mesonotum* black, front rami of cruciform elevation (except a small spot on each), lateral borders, and scutellum, red. *Tegmina* vitreous, costa and veins black, basal membranes red. Wings vitreous, veins black, interior border of anal area reddish milky, its apex broadly fuscous. *Abdomen* velvet black, excepting the first, apical borders of segments orange-red, tip pale yellow. *Body* below black, chest with a few

red marks; opercula black, broad, extending a little beyond sides of abdomen, separated; abdomen bright red, black at base and apex, and a row of black spots on each side. *Legs* black, spot near base of tibiae and most of tarsi pale yellow. Long. corp. 21 mm.; exp. teg. 55 mm.

Hab.—Leura, N.S.W.; Adelaide, Onkapinge, Summerton, S.A.

♀. Var. *Head* with a percurrent median stripe; *pronotum* with a median stripe, two large spots on each side, lateral and hind borders, pale red; *mesonotum* with lateral borders, two middle stripes uniting with cruciform elevation which are angulated at middle interiorly, cruciform elevation, hind borders of all segments of abdomen, red; anal appendage with a dorsal stripe and large spot on each side red; costa red bordered with black; legs striped with red.

This is the common Black Squeaker on the Blue Mountains around Leura and Katoomba about the new year. It clings to the stems of the small Eucalypts, making a short flight when disturbed; the male when calling depresses the tip of the body, drops his wings, and produces a regular sharp squeaking note repeated several times.

*PAUOPSALTA CASTANEA, sp.nov.

Head castaneous, middle of front border black; front lightly convex, castaneous, with lateral black streaks; rostrum castaneous, passing hind coxæ. *Pronotum* width of head, not narrowed in front; castaneous, the furrowed space, on each side, occupied with a large, well defined, piceous spot. *Mesonotum* castaneous, two longitudinal discal lines, lateral and posterior borders with cruciform elevation, yellow. *Tegmina* vitreous, costa and veins sordid yellow. Wings with venation pale yellow. *Abdomen* castaneous, apical borders of segments and anal appendage yellow, the latter with two castaneous stripes and tip black. *Body* below castaneous; abdomen sordid yellow, tip of ovipositor fuscous. *Legs* castaneous. Long. corp. 23 mm.; exp. teg. 60 mm.

Hab.—Karth; one female in the South Australian Museum, collected by C. M. Bagot.

One of the robust species and may easily be separated from its congeners by the description.

**PAUROPSALTA PROLONGATA*, sp.nov.

Head black, spot on base of vertex, one on each side of front border, band across front, red; front black, middle strip and borders pale red, sides of face black; rostrum pale red, reaching middle coxæ. *Pronotum* width of head; front angles produced tooth-like; pale red, two central stripes united at base, irregular streaks on sides, and front edge of hind border, black. *Mesonotum* pale red, four obconical stripes, the outer pair longer and extended to sides of cruciform elevation, a large spot in front of the latter, black. *Tegmina* vitreous, costa and veins pale red, costa separated from radial vein. Wings with veins pale red; *Abdomen* reddish-black, apical borders of segments and anal appendage red, the latter with two black stripes on disc. Long and slender. *Body* below: chest black; abdomen pale red, apical borders of segments yellow, a middle stripe and anal appendage fuscous; ovipositor ferruginous, extending far beyond tip of abdomen. *Legs* pale red, lined with darker red. Long. corp. 21 mm.; exp. teg. 50 mm.

Hab.—Australia; one female in the South Australian Museum, Adelaide.

This long, slender species may be easily recognised by the markings, and the extended abdomen.

**PAUROPSALTA EXTENSA*, sp.nov.

Head sordid red; front convex, middle stripe and lateral borders pale red. *Pronotum* the width of head, front angles prominent, lateral borders parallel; all borders and a middle stripe sordid yellow, some black streaks on furrows; rostrum reddish, reaching middle coxæ; posterior angles prominent. *Mesonotum* sordid red, two narrow yellow stripes on disc. *Tegmina* with front border sinuous, costa and veins yellow. Wings with veins yellow, apex of anal area infuscated. *Abdomen* long, double the length of head and thorax, gradually attenuated to apex, sordid red;

apical borders of segments yellow; anal appendage with a stripe on disc and a large spot on each side yellow. *Body* below sordid yellow, a pale fuscous stripe along middle of abdomen; anal appendage ferruginous, ovipositor same colour and extends far beyond apex of abdomen. *Legs* yellow mottled with ferruginous. Long. corp. 22 mm.; exp. teg. 50 mm.

Hab.—Murray River, S.A.; one female (Adelaide Museum).

A very lengthy species, in form resembling *prolongata*.

*PAUROPSALTA EXTREMA, Dist.

1892. Ann. Mag. Nat. Hist. (6) ix., p. 323.

Head, pronotum, and mesonotum black. *Head* with front excluding two marginal spots, anterior marginal angles of vertex, and ocelli ochraceous. *Pronotum* with margins, and central longitudinal fascia, on each side of which are discal curved and transverse streaks, ochraceous. *Mesonotum* with two central fasciæ thickened posteriorly, lateral margins and cruciform elevation (excluding anterior angles and central margins) ochraceous. *Tegmina* and wings pale hyaline, bases very narrowly ochraceous; venation generally fuscous; costal membrane to tegmina ochraceous, with its outer margin narrowly fuscous. Wings with inner margin and outer apical angle of claval areas infuscated. *Abdomen* ochraceous, basal margin and two apical segments black; a central longitudinal spot to penultimate segment and posterior margin of apical segment ochraceous. *Body* beneath and legs ochraceous; femora streaked with castaneous; a broad central fascia to face; head beyond face, coxal fasciæ, sternal spots and basal angles of abdomen black. Upper surface of abdomen of female with transverse central segmental black spots, two terminal segments not wholly black as in male. Long. corp. 18 mm.; exp. teg. 47 mm.

Hab.—Roebourne, N.W. Australia (Distant).

*PAUROPSALTA NIGRISTRIGA, sp.nov.

Head black, a spot on vertex and one on each side of front border, yellow; front lightly convex, fuscous, sides pale yellow,

and a spot of same colour on base, hairy, face black, covered with long white hairs; rostrum pale red, tip black, reaching hind coxæ. *Pronotum* in front narrower than head, broadened posteriorly, front angles produced; black, anterior, lateral, and posterior borders, and a median stripe, pale yellow, a black spot on middle of hind border. Covered with short hairs. *Mesonotum* black, lateral borders broadly, two central stripes broadest at middle, and cruciform elevation, pale yellow; hairy. Scutellum pale red. *Tegmina* vitreous, costa pale red, its anterior edge dark red; veins and basal membrane dark red. Wings with veins fuscous, anterior and posterior borders pale red; base and apex of anal area infuscated. *Abdomen* pale reddish-yellow covered with white hairs, a series of short transverse black bands along disc, and base of anal appendage, black, tip pale. *Body* below: chest pale yellow, hairy, streaked with fuscous; opercula short, reniform, pale yellow, base infuscated; abdomen sordid reddish-yellow, apex fuscous, tip pale. Long. corp. 30 mm.; exp. teg. 54 mm.

Hab.—Endeavour River, Q.; one male in the Macleay Museum.

The row of transverse black bands on the pale yellowish abdomen will easily distinguish this species.

*PAUROPSALTA ANNULATA, sp.nov.

Head black, a yellow spot at base of vertex; front convex, black; rostrum black, reaching middle coxæ. *Pronotum* black, a little narrower than head, front angles produced; a middle stripe or spot, front border laterally, and hind border, pale yellow. *Mesonotum* black, lateral and hind border, pale yellow. *Tegmina* vitreous, costa pale edged with black exteriorly, somewhat distant from radial vein; veins black, basal membranes yellow, opaque. Wings vitreous, veins black, paler towards base and front border; anal area milky near base, apex infuscated. *Abdomen* black, apical borders of segments (excepting the first), broadly orange red. *Body* below black, abdomen orange-yellow, a row of lateral spots, and one along middle, black. Opercula small, black, separated, posterior border narrowly yellow. *Legs* black, tips of

front coxæ, femora, and front tibiæ, dark red. Long. corp. 13 mm.; exp. teg. 40 mm.

Hab.—Townsville, Gatton, Southport, Gin Gin, Q.; Narromine, Wagga, N.S.W.; eight examples, collected by Froggatt and Todd (Coll. G. & F.). The Gatton example has the usual markings on mesonotum, and all pale markings bright red.

This species was plentiful upon the Melaleuca bushes about Southport in October, where a large series was taken. The male has a very low squeaking note.

*PAUROPSALTA NODICOSTA, sp.nov.

Head black, convex, a small yellow spot at base of vertex, three red spots in front border; front black, a broad middle stripe and lateral borders, red; rostrum reddish-fuscous, reaching middle coxæ; eyes prominent, somewhat sessile. *Pronotum* narrower than head, black, a middle stripe, and posterior borders, red; front angles prominent. *Mesonotum* black, two short stripes on disc, lateral and posterior borders, and cruciform elevation, red. *Tegmina* vitreous, costa pale red, with a large triangular node at middle; venation black; first six apical areas long and narrow, discoidal areas short and broad. Wings vitreous, front edge pale red, veins black. *Abdomen* black, apical half of each segment red, a spot at base of anal segment and tip black. *Body* below pale red mottled with black, abdomen with anal appendage, ovipositor, and a spot at its base, fuscous. *Legs* pale red striped with dark red, front tibiæ dark red. Long. corp. 17 mm.; exp. teg. 40 mm.

Hab.—Kalgoorlie, W.A.; one specimen (♀) (Coll. G. & F.)

This is the only species of cicada received from Kalgoorlie through G. W. Froggatt while collecting in that district for several years.

*PAUROPSALTA DUBIA, sp.nov.

Head black; front lightly convex, not prominent, black; rostrum brown, tip black, reaching middle coxæ; a pale spot on vertex. *Pronotum* width of head, black, three fuscous yellow spots, on each side, and a middle yellow stripe. *Mesonotum* black, posterior border and cruciform elevation yellow. *Tegmina* vitreous, short;

costa angulate at middle, pale yellow, darker towards apex; veins dark yellow. Wings with veins yellow. *Abdomen* black, apical borders of segments yellow; anal appendage fuscous-yellow. *Body* below sordid yellow; opercula very small, distant; abdomen yellow, base of segments and tip fuscous; ovipositor yellow, tip black. *Legs* yellow, striped with black. Long. corp. 12 mm.; exp. teg. 30 mm.

Hab.—Ferrishaw and Kewell, Vic.; Lucindale, S.A.; two pairs, in the National Museum, Melbourne, and South Australian Museum.

**PAUROPSALTA ENCAUSTICA*, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 62.

1850. *Cicada arclus*, Walk., List Hom. Brit. Mus. p. 184.

Cicada juvenis, Walk., ibid. p. 188.

Cicada dolens, Walk., ibid. p. 190.

Head black, with a pale occipital line; rostrum black, tawny near base, reaching middle coxæ. *Pronotum* narrower than head, black, hind border red or yellow, sometimes a red or yellow spot near front border; hind angles produced horizontally. *Mesonotum* black, pilose, with four stripes and apex, yellow; in some examples the borders only are red and yellow, while others have but two red or yellow stripes. *Tegmina* vitreous, costa yellowish, sometimes bordered with black; venation testaceous, blackish towards apex. Wings vitreous, venation fuscous, apex of anal area infuscated. *Abdomen* black, apical margins of segments red or yellow; much longer than chest. *Body* below yellowish, with an obsolete fuscous stripe. Opercula short, widely separated, yellow, disc pale. *Legs* yellow, marked with black. Long. corp. 15 mm.; exp. teg. 36-50 mm.

Hab.—Australia (Germar); Port Stephens, New Holland (Walker); Mittagong, N.S.W.

**PAUROPSALTA MNEME*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 181.

Cicada antica, Walk., ibid. p. 182.

Head and chest clothed with short black hairs; head hardly narrower than pronotum, with a slender interrupted stripe; front

slightly convex, not prominent, red on each side; eyes rather prominent; antennæ black, stout; rostrum black, reaching middle coxæ. *Pronotum* a little narrower in front than behind, with a slender red stripe not reaching hind border. *Mesonotum* with sides, cruciform elevation, and hind border tinged with red. *Tegmina* vitreous, costa dark red, rather convex; veins black, tawny and marked with black at base. Wings with apical area brown at base, hind border, and tips. *Abdomen* obconical, a little longer than chest, with whitish shining down; hind borders of segments, tip and below red; opercula very small, dark red, blackish towards base, wide apart. *Legs* black, rather hairy; fore femora streaked with red, a tawny band near base of the four hind tibiæ; hind tibiæ tawny towards base; hind tarsi tawny, tips black.

♀. Abdomen a little longer than ♂, last segment red, except two divergent black stripes; oviduct red. Long. corp. 17 mm.; exp. teg. 50 mm.

Hab.—Tasmania (Walker); New South Wales; Victoria.

**PAUROPSALTA INCIPIENS*, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 189.

♀. Body black, rather short. *Head* broad as pronotum; front rather prominent, forming very obtuse angle, a tawny mark on each side in front; antennæ dark tawny. *Pronotum* not narrower in front, with or without a slight tawny stripe. *Mesonotum* with two wavy, tawny stripes, hind border tawny; posteriorly mostly tawny. *Tegmina* vitreous, tawny at base; costa ferruginous far as middle; veins black. *Abdomen* tapering, tawny, much longer than thorax, mostly black above at base, whence three black stripes or spots decrease in size, along back, end before tip. *Legs* tawny, striped with black, with short tawny hairs. Long. corp. 10 mm.; exp. tegm. 30 mm.

Hab.—Adelaide, S.A. (Walker).

**PAUROPSALTA RUBRA*, sp.nov.

Head pale red with irregular black lines; front very convex, triangularly produced, pale red, with a broad black stripe on each

side; rostrum pale red, reaching hind coxæ. *Pronotum* width of head, hind angles prominent; pale red, two short central stripes, two lateral stripes, and hind angles, black. *Mesonotum* pale red, with four obconical black stripes, the outer pair much longer and excavated. *Tegmina* vitreous, costa and veins pale red, the exterior vein of basal area and posterior margin of clavus black. Wings with fore border pale, the veins fuscous, anal area fuscous behind inner vein. *Abdomen* pale red, a row of short obsolete transverse bands along dorsum, and a row of small spots near lateral borders, black; anal appendage with two black stripes on disc. *Body* below pale red, tip of ovipositor black. *Legs* pale red, femora streaked with black. Long. corp. 18 mm.; exp. teg. 45 mm.

Hab.—Sale, Vic.; one female collected by Kershaw, in National Museum, Melbourne.

**PAUROPSALTA LEICHARDTI*, Dist.

1882. P.Z.S.L. p. 132, pl. 7, fig. 5.

♀. Body above ochraceous. *Head* with anterior margin, a spot on anterior lateral angles of vertex, an oblique fascia behind eyes, two small spots between ocelli and eyes, a transverse spot on anterior margin of vertex, black. *Pronotum* with two central black lines, not extending to posterior margin, widened and angulated near anterior margin, oblique striæ, and inner border of posterior margin, black. *Mesonotum* with two short contiguous obconical spots, on each side of which is a more elongate and broken one, and two small rounded spots in front of cruciform elevation, black. *Tegmina* and wings pale hyaline; tegmina with costal membrane, and area and veins enclosing basal ulnar area pale ochraceous, remaining venation fuscous. *Abdomen* with a series of dorsal transverse black fasciæ, decreasing in width towards apex; anal appendage with a black line on each side. Body beneath ochraceous; base and lateral margins of face, apex of rostrum, and ovipositor, black. Legs ochraceous; femora streaked with fuscous; front tibiæ black, annulated with ochraceous near base. Head, including eyes, equal in width to pron-

tum; rostrum reaching middle coxæ; face somewhat compressed, centrally and longitudinally broadly sulcated for half its length, and transversely striate. Long. corp. 10 mm.; exp. teg. 25 mm.

Hab.—Peak Downs, Queensland (Distant).

A male of this species in the Macleay Mus., Sydney, is larger, abdomen lightly inflated and yellow, excepting the basal segment and a stripe along the dorsum black.

*PAUROPSALTA MULTIFASCIA, Walk.

1850. *Cicada* id., Walk., List Hom. Brit. Mus. p. 185.

Cicada singula, Walk., *ibid.* p. 186.

Cicada obscurior, Walk., *ibid.* p. 187.

Head breadth of pronotum, black, a red spot on vertex; front convex, not prominent, sometimes a spot, and sides of face, yellow; rostrum black or dark red, reaching almost to hind coxæ. *Pronotum* black, sometimes with a median stripe widened in front and behind, and hind border, dark red. *Mesonotum* black, lateral and hind borders, and sometimes two parallel stripes, dark red. *Tegmina* vitreous, costa red, venation black. Wings vitreous, venation black, middle vein and near base red or tawny. *Abdomen* longer than chest, black, apical margins of segments yellow or red. *Body* below yellow or red, with or without three fuscous stripes. *Opercula* small, widely separated, pale yellow. *Legs* black and yellow, or black and red. Long. corp. 10-12 mm.; exp. teg. 30-32 mm.

Hab.—Adelaide, S.A.; New Holland (Walk.).

*PAUROPSALTA BASALIS, sp. nov.

Head yellow, vertex mostly black; front lightly convex, sides of face and a broad central stripe, black; rostrum black, base yellow, reaching middle coxæ. *Pronotum* a little narrower than head, furrows fuscous. *Mesonotum* yellow, four broad stripes, the middle pair shorter and confluent, two dots and a spot in front of cruciform elevation, black. *Tegmina* vitreous, costa white, separated from radial vein; veins black. Wings vitreous, veins black, interior vein of anal area broadly milky. *Abdomen* orange-

red, base of first segment black, apical margins of segments yellow. *Body* below yellow, opercula small, white; apical half of abdomen bright orange-red. *Legs* yellow, front coxæ and a stripe on front femora fuscous. Long. corp. 18 mm.; exp. teg. 35 mm.

Hab.—Townsville, Q.; one example collected by Dodd (Coll. G. & F.).

**PAUROPSALTA PUER*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 200.

♂. *Body* tawny. *Head* a little broader than pronotum; disc black, a black mark on each side beneath; front convex, with black striations; rostrum tawny, tip black, reaching middle coxæ, black spot above near base; antennæ tawny, black toward tips. *Pronotum* not narrower in front, sutures black, hind part narrow, slightly widened and rounded on each side. Disc of *mesonotum* black, four tawny stripes communicating with hind border. *Tegmina* vitreous, tinged with brown along the veins near tip of costa, tawny at base and costa; veins piceous, tawny at base. *Abdomen* swollen, much longer than chest, black above at the base whence a row of black spots proceeds nearly to the tip. Opercula pale tawny. *Legs* pale brown, clothed with yellow hairs, coxæ and knees yellow; yellow ring near base of each tibiæ; femora striped with piceous and yellow. Long. corp. 10 mm.; exp. tegm. 27 mm.

Hab.—Adelaide, S.A. (Walker).

**PAUROPSALTA EMMA*, sp.nov. (Plate xviii., fig. 11).

Head black, a little broader than front of pronotum; front convex, not prominent, ochraceous, sides of face black, hairy; rostrum reaching apex of middle coxæ. *Pronotum* black, with three ochraceous spots on each side; lateral borders parallel, hind angles a little prominent. *Mesonotum* black, with two small spots on posterior part of disc and cruciform elevation ochraceous. *Tegmina* short, broad, postcostal area very broad throughout; veins on basal portion yellow, those of apical portion, hind border of clavus, front and apical borders of basal area, fuscous. Veins

of wings yellow. *Abdomen* yellow, base and metanotum shining black, a black median stripe along dorsum which reaches last segment. *Body* below ochraceous, hairy; opercula ochraceous, nearly round, a little distant; abdomen reddish-yellow, a black spot at base. *Legs* yellow, front tibiæ and tips of tarsi fuscous. Long. corp. ♂ 11 mm., ♀ 9 mm.; exp. teg. ♂ 30 mm., ♀ 28 mm.

Hab.—Rockhampton, Q.; described from a number of specimens in the Macleay Museum.

This beautiful little species is dedicated to Mrs. Emma Froggatt, in appreciation of her kindly interest in our work.

*PAUROPSALTA BOREALIS, sp.nov.

Head convex, yellow, vertex mostly black; front black, borders yellow; rostrum yellow, tip black, reaching hind coxæ. *Pronotum* a little narrower than head, sordid yellow, two middle stripes broader at base and apex, a short stripe on each side, and furrows, blackish; front angles prominent. *Mesonotum* sordid yellow, four broad stripes, middle pair shorter and confluent, extending to front border and cruciform elevation, including it, black. *Tegmina* vitreous, costa pale yellow, venation black. Wings with anal area milky, near base tinged with fuscous; veins dark red. *Abdomen* with base of segments sordid red, followed with orange-red, again followed with yellow on posterior border; anal appendage dark red, a yellow spot on each side; covered with short white hairs. *Body* below black variegated with yellow; abdomen same as above; ovipositor reddish. *Legs* reddish, streaked with yellow, hind tibiæ yellow. Long. corp. 14 mm.; exp. teg. 40 mm.

Hab.—Northern Territory, S.A.; one example, collected by J. G. Tepper (Coll. G. & F.).

*PAUROPSALTA SERICEIVITTA, Walk.

1862. *Cicada* id., Journ. Ent. p. 304.

♂. Pale testaceous-yellow. *Head* as broad as pronotum, with a black point on each side of vertex. *Pronotum* with four furrows, which converge hindward. *Mesonotum* with a black

stripe on each side. *Abdomen* beneath with a line of blackish points. Fore tarsi and tips of fore tibiæ black. *Tegmina* and wings vitreous, veins of tegmina whitish, black towards tips and along interior border; 1st and 2nd transverse veins upright; wings with five apical areas. Long. corp. ♂ 12 mm.; exp. teg. 30 mm.

Hab.—Sydney (Walker), Clarence River, N.S.W.; one example in the National Museum, Melbourne, and several in the Macleay Museum.

**PAUOPSALTA MINIMA*, sp.nov.

Head yellow, front border darker; front yellow with a broad brown stripe on middle. *Pronotum* narrower than head, yellow, furrows darker. *Mesonotum* yellow, with two long lateral stripes, between which are two very short narrow stripes from base, black. *Tegmina* vitreous, costa white, veins yellow. Wings with veins pale yellow. *Abdomen* yellow, long, narrow, with a narrow obsolete median stripe. *Body* below yellow. Long. corp. 9 mm.; exp. teg. 24 mm.

Hab.—Northern Territory, S.A.; collected by J. G. Tepper.

This is one of the smallest species examined, of which we have seen three examples; they are in the South Australian Museum and our own Collection.

Genus *MELAMPALTA*, Kol.

1857. *Mel. Ent.* vii. p. 19.

1857. *Cicadetta*, Kol., id. p. 19.

1857. *Tettigetia*, Kol., id. p. 24.

1866. *Melampalta*, Stål, *Hemip. Afric.* iv. p. 42.

Head subequal in breadth to front of pronotum; vertex about double broader than eyes; front lightly convex, with a more or less distinct median longitudinal sulcus. *Pronotum* broader behind than in front, lateral margins obtuse, rarely a little flattened out. *Tegmina* with two contiguous ulnar veins or joined in one towards base, eight apical areas, basal area quadrangular. Wings with six apical areas. Apex of last ventral segment of

the *abdomen* in the female very deeply and broadly emarginate. Opercula small or medium. Front *femora* spined below.

Type,

SYNOPSIS OF SPECIES.

- 1(14). Tegmina with fuscous spots.
 2 (5). Tegmina with an irregular stripe on bases of apical areas.
 3 (4). Lateral margins of pronotum, at middle, with a tooth..... *unbrimargo*.
 4 (3). Lateral margins of pronotum unarmed..... *oxleyi*.
 5 (2). Tegmina with the two exterior anastomoses only, spotted.
 6 (7). Lateral margins of pronotum, at middle, with a tooth *torrida*.
 7 (6). Lateral margins, near middle, unarmed.
 8(13). Abdomen black.
 9(10). Abdomen unicolorous, without red or yellow spots.. *binotata*.
 10 (9). Abdominal segments with margins red or yellow.
 11(12). Pronotum and mesonotum black, without spots.... *spreti*.
 12(11). Pronotum and mesonotum ochraceous, black-striped *labeculata*.
 13 (8). Abdomen pale; body long, slender..... *convergens*.
 14 (1). Tegmina without fuscous spots.
 15(16). Ulnar veins distinct but contiguous; apex of anal area of wings infuscated..... *infuscata*.
 16(15). One ulnar vein apex of anal area of wings unspotted.
 17(24). Lateral margins of pronotum armed at middle with a tooth.
 18(23). Abdomen black.
 19(20). Third abdominal segment only, orange-red..... *rubricincta*.
 20(19). All abdominal segments banded with red or yellow.
 21(22). Anal appendage armed with a spine before tip..... *spinosa*.
 22(21). Anal appendage unarmed..... *marginata*.
 23(18). Abdomen pale, with three rows of black dots *labyrinthica*.
 24(17). Lateral margins of pronotum unarmed.
 25(26). Dorsum with a broad percurrent castaneous stripe.. *oldfieldi*.
 26(25). Dorsum destitute of a percurrent stripe.
 27(54). Abdomen black, marked with red or yellow.
 28(39). Front angles produced, almost tooth-like.
 29(30). Costa black; abdomen black..... *denisoni*.
 30(29). Costa red.
 31(36). Apical margins of abdominal segments red or yellow.
 32(33). Veins of tegmina and wings black..... *nebulosa*.

- 33(32). Veins of tegmina and wings red.
- 34(35). Front of pronotum narrower than head..... *fletcheri*.
- 35(34). Front of pronotum the width of head..... *rubristrigata*.
- 36(31). Apical margins of abdominal segments concolorous.
- 37(38). Veins of tegmina and wings pale red or yellow... .. *kershawi*.
- 38(37). Veins of tegmina and wings blackish..... *abdominalis*.
- 39(28). Front angles not prominent.
- 40(43). Costa black.
- 41(42). Head narrower than front of pronotum..... *aede*.
- 42(41). Head width of pronotum..... *melete*.
- 43(40). Costa red.
- 44(45). Abdomen without stripes or spots above..... *atrata*.
- 45(44). Abdomen with apical borders of segments red or yellow.
- 46(51). Mesonotum tawny or yellow.
- 47(48). Pronotum yellow..... *mackinlayi*.
- 48(47). Pronotum black.
- 49(50). Body black, not hairy.... *latorea*.
- 50(49). Body tawny, very hairy..... *angusta*.
- 51(46). Mesonotum black.
- 52(53). Abdomen with ferruginous and green bands on segments..... *quadricincta*.
- 53(52). Abdomen with red bands on segments, interrupted on the back. *incepta*.
- 54(27). Abdomen not black.
- 55(60). Venation fuscous or black.
- 56(57). Mesonotum red *tristrigata*.
- 57(56). Mesonotum black.
- 58(59). Pronotum black..... *abbreviata*.
- 59(58). Pronotum dull ochraceous..... *landsboroughi*.
- 60(55). Venation not fuscous or black; pale.
- 61(64). General colour red or reddish.
- 62(63). Mesonotum without spots or stripes; opercula small. *rubea*.
- 63(62). Mesonotum with fuscous stripes; opercula large, disc-shaped, convex on interior surface, laterally extending beyond sides of abdomen, posteriorly reaching middle of abdomen, touching, red..... *castanea*.
- 64(61). General colour yellow or yellowish.
- 65(66). Mesonotum without fuscous marks... .. *fulva*.
- 66(65). Mesonotum spotted or striped with fuscous or black.
- 67(70). Two stripes on mesonotum.
- 68(69). Mesonotum yellow, with fuscous marks..... *flava*.

- 69(68). Mesonotum dark castaneous, with pale marks..... *warburtoni*.
 70(67). Four fuscous stripes on mesonotum.
 71(72). Postcostal area of tegmina infuscated..... *convicta*.
 72(71). Postcostal area not infuscated.
 73(78). Apical borders of abdominal segments not fuscous.
 74(77). Abdomen marked with fuscous.
 75(76). Front with a median longitudinal sulcus..... *eyrei*.
 76(75). Front destitute of a longitudinal sulcus... .. *graminis*.
 77(74). Abdomen without fuscous spots..... *telciope*.
 78(73). Apical borders of abdominal segments fuscous.
 79(80). Pronotum without black stripes, two fuscous spots
 on anterior margin..... *forresti*.
 80(79). Pronotum with black stripes.
 81(82). Head with a large black spot on vertex..... *interstans*.
 82(81). Eyes surrounded with black. *varians*.

*MELAMPSALTA TORRIDA, Erich.

1842. *Cicada* id., Archiv f. Nat. viii. p. 286.
 1850. *Cicada basiflamma*, Walk., List Hom. Brit. Mus. p. 170.
 Cicada connexa, Walk., ibid. p. 173.
 Cicada damater, Walk., ibid. p. 178.

Head a little broader than front of pronotum; testaceous, with two short stripes at base, a broad curved stripe passing middle and reaching front border on each side, and front edge on middle, black; front convex, prominent, with a very broad longitudinal stripe enclosing a small yellow spot near base, and borders of face including clypeus, black. *Pronotum* narrowed a little towards front, testaceous; lateral borders with an acute tooth on each side near middle, front angles prominent, the posterior angles very prominent and obtuse; transverse and oblique impressions, two central stripes, with some indistinct spots, black; hind border narrow, fuscous. *Mesonotum* convex, testaceous, with four obconical stripes, the outer pair longer reaching apical border, and a narrow median stripe terminating in a spot in front of cruciform elevation, black. *Tegmina* vitreous, venation testaceous, black towards apex and interior border; interior ulnar area with sides parallel, apex rounded above; postcostal marginal space broadened at origin of first transverse vein; a black spot on first

and second anastomoses. Wings vitreous, venation fuscous, the anal area milky-white with a vitreous spot. (Spot sometimes absent). *Abdomen* black, apical margin of segments testaceous; in the male it is almost entirely black above and below; in the female the margin of the segments, two narrow stripes on the dorsum and sides of anal segment above with a broad stripe on each side below, testaceous. Opercula small, testaceous-red, blackish at base, wide apart. *Legs* testaceous, all femora striped, and front tibiæ, black. Long. corp. ♂ 20, ♀ 25 mm.; exp. teg. ♂ 60, ♀ 64 mm.

Hab.—Tasmania; New Holland (Walker); Victoria; New South Wales; Queensland.

In its markings and size this is a very variable species, especially the males which are most frequently almost entirely black, although the typically marked examples do occur. It may be easily recognised, when the tegmina and wings are at rest, by the very prominent milky-white stripe on the anal area of the wings which is seen through the transparent tegmina. Walker's synonyms are due to his peculiar methods for separating species.

**MELAMPALTA UMBRIMARGO*, Walk. (Plate xviii., fig. 12).

1858. *Cicada* id., List Hom. Brit. Mus. Suppl. p. 32.

♀. Yellow. *Head* with two broad irregular black stripes, connected between ocelli, front with a lanceolate black stripe, emitting branches along furrows, contains a yellow dot, almost connected on each side with a band. *Pronotum* with two black stripes, connected in middle, widened and diverging in front and behind, where there is a black dot; the black streaks on each side, border edged with black, and armed with a tooth on each side. *Mesonotum* with four obconical black stripes, a lanceolate black streak behind the inner pair, which are short. *Tegmina* vitreous, narrow, veins yellow, black toward tip, clouded with brown at tips and exterior border, hind vein black; first, second and third transverse veins clouded with brown. *Abdomen* with a black band on the fore border of each segment; last segment with two black

stripes and two black dots. Long. corp. 24 mm.; exp. teg. 70 mm.

Hab.—Swan River, W.A. (Walker); Ardrossan, Yorke Peninsula (Tepper), Gawler, S.A. (Macleay Mus.).

*MELAMPSALTA CONVERGENS, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 114.

Head a little narrower than pronotum; vertex with three red dots; front convex, red, with two black stripes having black bands on each side; rostrum tawny, tip black, reaching middle coxæ. *Pronotum* with a tawny stripe at middle, and on each side three broad red stripes, the middle one interrupted; hind border tawny, tinged with black, almost angular at base of tegmina, excavated on each side. *Mesonotum* pale red, three very broad, obconical, black stripes, middle one shortest and broader, united at tip to a black spot near cruciform elevation. *Tegmina* lightly tinged with tawny, costa pale red, piceous towards tips; veins black, first and second anastomoses and longitudinal vein between them, clouded with dark brown. *Abdomen* obconical, a little longer than pronotum, a black stripe and a little black near base below; oviduct pitchy. *Legs* tawny, marked with black. Long. corp. 20 mm.; exp. teg. 65 mm.

Hab.—New Holland (Walker); Queensland.

*MELAMPSALTA LABECULATA, Dist.

1892. Ann. Mag. Nat. Hist. (6) x., p. 66.

♂. *Head* and thorax above ochraceous; head with margins of front, a lineate spot near anterior angles of vertex, and a broad fascia between eyes, enclosing ocelli, black. *Pronotum* with two central fasciæ rounded and joined posteriorly, a spot on each side, and furrows, black; a black spot on posterior margin at lateral angles. *Mesonotum* with four large obconical spots, the central pair shortest, a central lanceolate fascia, anterior margin of cruciform elevation, a spot on its anterior angles, a small spot in front, and posterior lateral margins, black. *Tegmina* with venation fuscous, costal membrane ochraceous, and with a

large spot blackish on transverse veins at bases of second and third apical areas; wings with venation ochraceous and fuscous. *Abdomen* black, moderately pilose, posterior segmental margins narrowly ochraceous; a spot on each side of last dorsal segment, two large lateral spots (basal and apical), and two central lines to anal appendage, ochraceous. *Body* beneath and legs ochraceous; a broad central fascia to face on each side of sulcation, base and apex of rostrum, sternal spots, longitudinal streaks to femora, anterior tibiæ (excluding bases), bases and apices of middle tibiæ, apices of tarsi, a broad central fascia to abdomen, and anal appendage, black. Long. corp. ♀ 20; exp. teg. 62 mm.

Hab.—Australia (Distant).

**MELAMPSALTA INTERSTANS*, Walk.

1858. *Cicada* id., List Hom. Brit. Mus. Suppl. p. 32.

♀. Tawny, testaceous beneath. Disc of vertex black, face with four broad black stripes. *Pronotum* with two black stripes, which are widened in front to enclose a testaceous stripe, three irregular black streaks on each side; hind border narrow, testaceous, hardly widened on each side. *Mesonotum* with four obconical black stripes, two black spots behind inner pair, which are short. *Tegmina* vitreous, veins tawny, black towards tip. *Abdomen* reddish-tawny, a black band on fore border of each segment, last segment with black dilated and connected stripes. *Legs* with black stripes. Long. corp. 14 mm.; exp. tegm. 40 mm.

Hab.—Adelaide, S.A. (Walker).

**MELAMPSALTA ABDOMINALIS*, Dist.

1892. Ann. Mag. Nat. Hist. (6) ix., p. 323.

Body above black. *Head* with a central spot to front, apical margins of vertex, a central spot near base, ochraceous. *Pronotum* with a central discal elongated spot, beneath which are two small transverse spots, ochraceous. A spot on each side of cruciform elevation and metanotal margin ochraceous. *Tegmina* and wings pale hyaline, venation blackish; costal membrane and post-costal area of tegmina ochraceous. *Abdomen* with two oblique

reddish-ochraceous macular fasciæ on last three segments, and in female two elongate sulphureous spots at base of anal appendage. Head beneath and sternum black; a spot at base and margins of face, a marginal spot near insertion of antennæ, coxal margins, legs and abdomen beneath, reddish-ochraceous; longitudinal fasciæ to legs, anterior tibiæ, tarsal claws, central basal spots, and a series of marginal spots to abdomen black. Long. corp. 20 mm.; exp. teg. 58-60 mm.

Hab.—Australia (Distant); Uralla and Monaro, N.S.W.; Gisborne, Vic. (Lyell); Adelaide, S.A. (Zietz).

This is a common species about Gisborne, where Lyell collected a number, but rarer in New South Wales. The white stripe or sheen on the sides of the body when the wings are closed is very striking.

**MELAMPSALTA SPINOSA*, sp.nov.

Head pale red, a broad curved band in front of vertex, including area of ocelli, reaching borders in front of eyes, two spots behind ocelli, and front border, black; front pale red, the middle and streaks fuscous; rostrum pale red, reaching middle coxæ; eyes surrounded with black. *Pronotum* short, broad, front angles produced in teeth, the front equal to width of head, and broadened posteriorly; lateral borders dentate at middle, posterior angles prominent; pale red, two middle stripes, furrows, lateral and posterior borders black. *Mesonotum* pale yellow, four obconical stripes, the middle pair shorter, outer pair excavated, lateral borders, a spot in front and one on each side of cruciform elevation with a small spot on its disc, fuscous. *Tegmina* vitreous, long, costa red, darker towards tip, veins strong, dark red. Wings with veins pale red, anal area milky along posterior border. *Abdomen* long, conical, fuscous-red, bases of segments and a central stripe which becomes more intense posteriorly, fuscous, a broad band on each side of last segment, and two stripes on its disc, and an irregular stripe on anal appendage, bright yellow; just before the tip of anal appendage is a long, slender, fuscous spine. *Body* below: chest is blackish marked with fuscous;

abdomen purple, a row of spots on each side, last segment and anal appendage bright yellow; sides of sheath of ovipositor purple. *Legs* black and pale yellow variegated. Long. corp. 42 mm.; lat. 9 mm.; exp. teg. 74 mm.

Hab.—Australia; one female, in the South Australian Museum.

This is one of the largest members of the genus.

[Since writing the above we have examined a male, in the Macleay Museum, which agrees with the description of the female, including the slender spine just before the apex, but is only 23 mm. long.].

**MELAMPSALTA KERSHAWI*, sp. nov.

Head reddish-fuscous, base of front pale red, also spot on base of vertex and posterior border; front very convex, produced, fuscous-red, borders pale red, sides of face reddish-fuscous; rostrum with basal half dark red, apical portion tawny, reaching middle coxæ. *Pronotum* width of head, widened posteriorly, front and hind angles prominent; dark red, a central stripe, front and hind borders, and three irregular spots on sides, pale red. *Mesonotum* red, with four obconical stripes, the outer pair longer, lateral borders, a stripe on disc, and a large spot in front of cruciform elevation, black. *Tegmina* vitreous, costa and veins pale red, basal membranes bright red. Wings with veins yellow, basal membranes red, posterior border of anal area broadly milky. *Abdomen* robust, black; anal appendage pale red, a spot on each side of base, and two stripes on disc which unite at apex, black. *Body* below: chest pale red variegated with yellow and black; abdomen black, a row of small spots on each side and last segment bright red, anal appendage fuscous-red. *Legs* red, streaked with darker red. Long. corp. 27 mm.; lat. 8 mm.; exp. teg. 76 mm.

Hab.—Marysville, Vic. (Kershaw); one female, in the National Museum, Melbourne.

This is the largest species of the genus we have seen.

**MELAMPSALTA DENISONI*, Dist. (Plate xviii., figs. 7-7a).

1893. Ann. Soc. Ent. Belg. p. 78.

Head black, a small pale spot at base of vertex; front triangularly produced, very hairy, a row of reddish spots on lateral

borders; rostrum reaching base of posterior coxæ. *Pronotum* width of head, black, rugose; front angles produced. *Mesonotum* black, rugose, a red spot on each side of scutellum. *Tegmina* vitreous, costa and venation black, postcostal marginal space bright red, first and second transverse veins very lightly infuscated in some examples; basal membranes red. Wings with interior and exterior borders and basal membranes red; veins black. *Abdomen* black, apical borders of segments, excepting the first and last, bright red. Below: chest black with scattering red marks; opercula red or pale yellow, black at base, reniform, distant; abdomen red or yellow, base, central stripe, blackish. Legs black, femora and tibiæ marked with red. Long. corp. 24-27 mm.; exp. teg. 62-72 mm.

Hab.—Port Denison, Queensland (Distant); Cooma, N.S.W.; Tooya and Lakes' Entrance, Vic.

Allied to *abdominalis*.

**MELAMPSALTA CASTANEA*, sp.nov.

Head castaneous, two black spots enclosing ocelli; front convex, castaneous, middle broken stripe and borders yellowish; rostrum castaneous, reaching hind coxæ. *Pronotum* a little narrower in front than head, broader posteriorly, castaneous, furrows, and two narrow central black stripes between which is a yellow stripe. *Mesonotum* castaneous, with four obconical obsolete black stripes, the middle pair shorter and edged narrowly with yellow; posterior border, cruciform elevation, and scutellum yellow. *Tegmina* vitreous or suffused with brown, venation, with that of wings, castaneous. *Abdomen* equal in length to combined length of head and thorax, dark castaneous, apical borders of segments and anal appendage red, the latter with two lateral spots and two dorsal stripes fuscous. *Body* below: chest castaneous mottled with yellow; opercula very large, disc-shaped and convex on the lower surface with the borders impressed, the inner borders touching, laterally extending beyond sides, posteriorly reaching middle of abdomen, red; abdomen red, base of first and last segments and tip of ovipositor

fuscous. *Legs* castaneous, posterior tibiæ and tarsi yellow. Long. corp. 20 mm.; exp. teg. 48 mm.

Hab.—New South Wales; one male, in the National Museum, Melbourne, and one female, in the South Australian Museum.

**MELAMPSALTA RUBRISTRIGATA*, sp.nov.

Head black, a spot at base of vertex and two spots on front border red; front convex, black, lateral borders red; rostrum black, base red, reaching middle coxæ. *Pronotum* width of head, not narrower in front, front angles prominent, tooth-like, red; front border at sides, a central stripe, red; hind border rather broad, with a transverse band and a spot on the prominent posterior angles black. *Mesonotum* red, with three broad stripes, the outer pair irregular towards apices and reaching sides of cruciform elevation, the median stripe extending from base to front of cruciform elevation, its exterior margins notched at middle. *Tegmina* vitreous, broad; costa, veins, basal membranes, red; posterior border of clavus black. Wings with veins and basal membranes red; anal area milky near base, apex infuscated. *Abdomen* strong, black, apical borders of segments and anal appendage red. *Body* below: chest black streaked with red; opercula medium, reniform, transverse, distant, apical half red; abdomen black, basal segment and all other segments on apical margins broader laterally, and anal appendage, red. *Legs* red, streaked with black. Long. corp. 23-25 mm.; exp. teg. 60-64 mm.

Hab.—Mt. Lofty, S.A.; two males and one female, in the South Australian Museum, Adelaide (collected by Zietz).

The female is similar to the male in the arrangement of the markings; the abdomen is much prolonged, conical, the ovipositor extending far beyond the apex of the abdomen, its tip black.

**MELAMPSALTA ATRATA*, sp.nov.

Wholly black, with the following exceptions: an obsolete narrow middle stripe on pronotum, lateral and posterior borders of mesonotum and front side of tympana red; below black, chest red-lined; opercula broad, short, broadly rounded, black,

the apical border sordid yellow; basal segment of abdomen pale red, disc black, apical borders of succeeding segments pale red; legs marked with red. *Tegmina* short, costal margin black, separated from radial vein, the space between and postcostal marginal space red; the costa broadly rounded; veins red, interior ulnar vein and those surrounding basal area black; basal membranes red. Wings with venation reddish-black; interior vein of anal area broadly reddish-fuscous. Long. corp. 12 mm.; exp. teg. 30 mm.

Hab.—New South Wales; three males, in Coll. G. & F.

*MELAMPALTA VARIANS, Germ.

1834. *Cicada* id., Silb. Rev. Ent. ii. p. 59.

Head short, transverse, rounded in front, transversely impressed, greyish pale yellow, eyes surrounded with black. *Pronotum* subnarrower than head, posterior angles a little prominent, grey pale yellow, median stripe black-margined and ordinary rugæ surrounded with black. *Mesonotum* grey pale yellow, four abbreviated stripes, the intermediate shorter, black. *Tegmina* vitreous, immaculate, base of veins pale, at apex fuscous; costa yellowish, apex fuscous. Wings concolorous. *Legs* pale, middle tibiæ ciliated, remotely spined. *Opercula* short, rounded. *Abdomen* grey pale yellow, incisures blackish, last segment with two black stripes above, below pale, median stripe obsolete fuscous. Long. corp. 23 mm.; exp. teg. 68 mm.

Var. Black colour of body largely extended, abdomen above with a black median stripe, sometimes almost wholly black.

Hab.—Australia (Germar).

*MELAMPALTA LANDBOROUGHII, Dist.

1882. P.Z.S.L. p. 131, pl. 7, fig. 14.

♀. *Head* black, a central longitudinal line to front and three basal spots ochraceous. Rostrum about reaches posterior coxæ; the face is broad, deeply and longitudinally sulcated, and transversely strongly striated; the head, including eyes, is considerably narrower than base of pronotum. *Pronotum* dull ochra-

ceous, a central pale fascia bordered with black, a short angulated fascia on disc, and oblique striæ also black, lateral and posterior margins shaded with black. *Mesonotum* black, obscurely marked with ochraceous, basal cruciform elevation pale ochraceous. *Tegmina* and wings pale hyaline; tegmina with costal membrane greenish-ochraceous, veins fuscous. *Abdomen* ochraceous, a broad central black fascia; anal appendage with sides broadly black. *Body* beneath, with head, black, lateral margins of face ochraceous; sternum shaded with black. *Legs* ochraceous, coxæ and femora streaked with black and fuscous; anal appendage black, a large spot on lateral margins and extreme apex luteous. Long. 16 mm.; exp. teg. 45 mm.

Hab.—Sydney (Distant); Shoalhaven, Mittagong, N.S.W.; Melbourne, Vic.

This is the species described in the Agricultural Gazette, 1903, under the name of the "Red-winged Squeaker" (*M. encaustica*). It is one of the commonest species of this genus, and one of the first to appear in the season. It frequents open forest country, clinging to the trunks of the smaller trees, the male producing a short squeaking note.

**MELAMPALTA FLETCHERI*, sp. nov.

Head black, spot at base of vertex, one on each side on lateral border, and a narrow ring around eyes, pale red; front convex, dark red, a spot at base, and lateral borders, pale red; rostrum dark red, base pale red, reaching middle coxæ. *Pronotum* narrower than head, black, the front, lateral, and hind borders, and a central stripe not reaching base, red; sides parallel; front angles prominent, tooth-like. *Mesonotum* red, with three broad, obconical stripes, the middle one shortest, a large spot in front of and one on each side of cruciform elevation, black. *Tegmina* vitreous, costa and radial vein separated, the intervening space, continued to apex, pale red; veins towards base dark red, black towards apex; basal membrane pale red, interior border of clavus black. Wings with veins dark red near base, black toward apex. Scutellum red. *Abdomen* black, apical borders of segments

red, a row of transverse yellow bands on each side in front of the red; anal appendage tawny. *Body* below: chest black, streaked with red; opercula small, distant, reniform, transverse, apical half tawny; abdomen red, a row of discal spots, last segment, and a spot on each side at base of anal appendage, black, apical borders of segments yellow. *Legs* red streaked with fuscous. Long. corp. 18 mm.; exp. teg. 52 mm.

Hab.—Sydney, N.S.W.; one male, in the National Museum, Melbourne.

This is quite distinct from any examined.

*MELAMPSALTA INFUSCATA, sp.nov.

Head black; convex in front, a pale red spot on base of vertex; front black, a red stripe on each side, sides of face black, the borders pale red, hairy; rostrum dark red, reaching hind coxæ. *Pronotum* narrower than head, sides parallel, black, front and hind borders, and an obsolete median stripe, pale red; front angles produced. *Mesonotum* black, two median stripes broadened at middle, lateral borders, and disc of cruciform elevation, pale red. Scutellum pale red, a black spot on each side and one at middle. *Tegmina* vitreous, the two ulnar veins distinct but contiguous and for a distance parallel; veins sordid red. Wings with veins reddish, base and apex of anal area infuscated. *Abdomen* black, apical borders of segments pale red, tip of anal appendage yellow. *Body* below: chest fuscous streaked with pale red; opercula pale, basal half fuscous, small, short, distant; abdomen light fuscous, hind borders of segments pale red, apex pale. *Legs* reddish-fuscous. Long. corp. 10 mm.; exp. teg. 44mm.

Hab.—South Australia; several examples in the Macleay Museum.

This is the only species of the genus seen with apex of anal areas of wings infuscated.

*MELAMPSALTA FLAVA, sp.nov.

Yellow, two stripes on disc of mesonotum, two dots following them, a short narrow stripe on each side of these dots, base and

tip of abdomen, and ovipositor, fuscous. Long. corp. 20 mm.; exp. teg. 42 mm.

Hab.—Australia; one female, in the South Australian Museum, Adelaide.

We have seen but one mutilated specimen.

**MELANPSALTA OLDFIELDI*, Dist.

1883. Proc. Zool. Soc. p. 191.

♂. Head, pronotum, and mesonotum greenish ochraceous, a central longitudinal castaneous fascia extends from base of head to apex of abdomen. *Head* with four large black spots on vertex, two at area of ocelli, and two in front of eyes. Rostrum just passes middle coxæ, apex castaneous; face laterally compressed, concave on each side, central sulcation deep. *Mesonotum* with pale ochraceous margins to the central castaneous fascia; central base of abdominal margins blackish. *Body* beneath pale greenish ochraceous; face castaneous, disc black. *Tegmina* and wings pale hyaline; tegmina with costal membrane and basal venation greenish, remaining venation pale fuscous; claval area and that between postcostal vein and postcostal ulnar ramus ochraceous. Wings with base and claval area ochraceous, veins greenish, becoming fuscous towards outer margin. Anal sheaths enclosing ovipositor fuscous, and projecting beyond apex of abdomen; ovipositor dark castaneous; last abdominal segment triangularly excavated. Long. corp. 21 mm.; exp. teg. 55 mm.

Hab.—New Holland (Distant); Gympie; Taylor's Range, Brisbane, Q.

The broad central castaneous fascia on the upper side of the body of this species renders it very distinct from all other Australian species.

**MELAMPSALTA TELXIOPE*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 194.

Cicada duplex, Walk., id. p. 194.

Cicada arche, Walk., id. p. 195.

Head width of pronotum, pale red or tawny; vertex with a black band crossing ocelli with a branch on each side towards

hind border; front convex, rather prominent, with two black stripes; rostrum tawny, tip black, reaching middle coxæ. *Pronotum* not narrower in front, posterior angles prominent; pale tawny tinged with green, or pale red. *Mesonotum* pale tawny, with or without pale ferruginous discal stripes, a black spot on each side of apex. *Tegmina* vitreous, costa and veins ferruginous or tawny. *Legs* yellow, femora streaked with black. Long. corp. 16 mm.; exp. teg. 35 mm.

Hab.—New Holland (Walker).

**MELAMPSALTA BINOTATA*, sp.nov.

Head black, a spot at middle of vertex, three spots on front border, yellow; front black, lateral borders yellowish; rostrum fuscous, reaching middle hips. *Pronotum* black, a little narrower than head; front angles prominent; middle stripe, front and lateral borders, and posterior edge, yellow. *Mesonotum* black, two large spots on disc, lateral borders, and cruciform elevation, yellow. *Tegmina* vitreous, costa pale red narrowly margined with dark red, veins of basal half pale red, those of apical portion dark red; first two anastomoses and most of first apical area infuscated. Wings with venation reddish-yellow, inner border of anal area milky. *Abdomen* black, covered with short golden hairs. *Body* below yellow; base, a middle row of large spots, black; ovipositor ferruginous. Long. corp. 16 mm.; exp. teg. 46 mm.

Hab.—Ardrossan, Yorke Peninsula, S.A.; one example (Tepper), and several collected by Masters (Coll. G. & F.)

Allied to *M. angusta*.

**MELAMPSALTA ANGUSTA*, Walk.

1850. *Cicada* id., List Hom. Brit. Mus. p. 174.

Cicada rosea, Walk., ibid. p. 220.

1858. *Cicada bilinea*, Walk., ibid. Suppl. p. 34.

1862. *Melampsalta rosea*, Stål, O. V. Ak. F. p. 484.

1890. *Cicada muta*, Hudson, Tr. N. Z. Inst. p. 51 (in part).

♂. Body tawny, very hairy. *Head* small, a little narrower than pronotum; discs of vertex and front black; rostrum tawny, tip black, reaching middle coxæ. *Pronotum* with three yellow stripes, the lateral pair irregular and oblique. *Mesonotum* with two very large black obconical marks, and between each of these and the side is an oblique black stripe. *Tegmina* vitreous, veins pale tawny, darker along costa, marked with black at base and tips. *Abdomen* obconical, much longer than chest, black above, tip and hind borders of segments tawny; a stripe of pale hairs extends along back. *Body* below with a broad short piceous stripe in disc. *Opercula* pale, moderate in size, almost meeting, one-third length of abdomen. *Legs* pale tawny, femora streaked with black.

♀. Pale greenish-testaceous. *Head* and thorax somewhat pubescent; head with a few black marks on vertex. *Pronotum* broader than head, with a paler stripe which is sometimes bordered with brown; four lateral brown streaks, occasionally obsolete; border rounded in front, dilated hindward on each side. *Mesonotum* with four tawny stripe which are more or less marked with black. *Tegmina* vitreous, veins pale testaceous. *Abdomen* with a stripe of whitish silky tomentum bordered with black on each side towards base. Long. corp. 16 mm.; exp. teg. 50 mm.

Hab.—New Zealand (Walker); Adelaide and Victoria.

**MELAMPSALTA RUBRICINCTA*, sp.nov.

Head black, sides of front border, spot on each side near eye, spot on middle of vertex, and posterior part of base of front, sordid pale red; front convex, prominent, a basal spot and lateral borders pale red; rostrum dark red, base yellow, tip passing hind coxæ. *Pronotum* black, width of head, three irregular spots on each side sordid red; two spots on front border and posterior edge of hind border sordid yellow; front angles prominent, hind angles flattened out; lateral borders with a tooth at middle. *Mesonotum* black, an obsolete stripe on each side of disc, lateral and posterior borders and front rami of cruciform elevation sordid

pale red. *Tegmina* vitreous, costa fuscous-red and angulate at middle; veins dark red, basal membrane reddish. Wings with veins red, anal area fuscous-red. *Abdomen* black, a narrow band at base of tympana, which are very broad and approaching to each other; apical margins of segments, excepting the first and last, red; the third segment entirely orange-red with a black dot on middle; anal appendage sordid yellow. *Body* below black; chest mottled with pale red; opercula medium, reniform, separated, apex broadly rounded, apical half sordid pale red; abdomen with apical border of first and all of the following three segments orange-red, a row of oblique black lines on each side near lateral borders; apex of last segment and anal appendage sordid yellow. *Legs* black, all marked with pale red; hind tibiæ wholly yellow. Long. corp. 21 mm.; exp. teg. 50 mm.

Hab.—West Australia; one example, in National Museum, Melbourne.

The orange-red band across the middle of the abdomen will distinguish this species from all others.

MELAMPALTA QUADRICINCTA, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 191.

Body black; head nearly breadth of pronotum; a tawny spot on each side of front, and on hind border, convex, not prominent; rostrum black, reaching middle coxæ. *Pronotum* with two tawny spots, one near each side, ferruginous on hind borders. *Mesonotum* with two oblique ferruginous stripes on each side, hind border lightly excavated. *Tegmina* vitreous, costa ferruginous for nearly two-thirds its length, then black for a short space; veins ferruginous, black towards tips. *Abdomen* piceous, obconical, not longer than thorax, hind borders with ferruginous and green bands, a tawny stripe on each side below; opercula rather large, almost white, longer than one-third of abdomen, separated by a narrow space. *Legs* tawny, black-striped, tarsi and front tibiæ black. Long. corp. 14 mm.; exp. teg. 37 mm.

Hab.—New Holland (Walker).

**MELAMPSALTA MARGINATA*, Leach.

1814. *Tettigonia* id., Zool. Misc. i. p. 89, pl. 39, fig. 1.

Head pale red, a broad band across vertex and base of front black; front convex, pale red with a broad central stripe and sides of face blackish. *Pronotum* pale red, a little narrower than head; front angles prominent, middle of lateral borders armed with a tooth, two central stripes, a spot on each side, furrows, and front edge of posterior border, black. *Mesonotum* black, lateral and posterior borders, two large spots on disc, and sides of cruciform elevation, pale red (the black surface varying in different individuals). *Tegmina* vitreous, costa pale red, veins black, basal membranes red. Wings with venation blackish, basal membranes and anal area reddish. *Abdomen* black, apical borders of segments and anal appendage red, the latter with a broad stripe on each side united near apex. *Body* below: chest reddish streaked with paler; opercula medium, pale red, broadly rounded, almost contiguous; abdomen pale red, with a central black stripe. *Legs* blackish streaked with red. Long. corp. 15-20 mm.; exp. teg. 45-53 mm.

Hab.—New Holland (Leach); Tasmania (Walker); South Australia and Northern Territory, S.A. (collected by Mr. J. G. Tepper).

The description given by Leach is too brief to identify this species, but his illustration is of considerable aid. The examples we have in hand are identical with the representation given in Zoological Miscellany, and are of a robust build.

MELAMPSALTA LABYRINTHICA, Walk.

1851. *Dundubia* id., List Hom. Brit. Mus. p. 75.

♂. Body tawny; head of medium size, a little narrower than pronotum, with a broad, irregular, lightly curved, black band which includes two tawny spots, with two branches to hind border; front prominent, very convex, pale green, with two broad black stripes; rostrum tawny, tip black, reaching middle coxæ; antennæ black. *Pronotum* with a black dot at middle

and on each side of hind border, furrows blackish, with a stout tooth on middle of each side. *Mesonotum* with four obconical black stripes, middle pair shorter, followed with two large black spots. *Tegmina* vitreous, green along fore border, veins green, black at tips and hind border. *Abdomen* obconical, much longer than thorax, above with three rows of black marks, last segment with two short black stripes, a short black stripe below; oviduct black. *Legs* tawny, marked with black. Long. corp. 17 mm.; exp. teg. 47 mm.

Hab.—New Holland (Walker).

**MELAMPSALTA NEBULOSA*, sp.nov.

Head black, convex, with a narrow central pale stripe; front black, borders yellow. *Pronotum* narrower than head, black with a narrow central stripe; front angles produced; lateral and posterior borders pale infuscated. *Mesonotum* black, lateral borders and cruciform elevation yellow. *Tegmina* tinged with brown, costa pale red, fuscous towards apex; venation black. Wings with venation black. *Abdomen* black, apical borders of segments broadly pale red; anal segment pale red, a broad angular stripe on each side. *Body* below: chest black, red-lined; abdomen pale red with a darker line on each side, base and apex black. *Legs* ferruginous, streaked with black. Long. corp. 13 mm.; exp. teg. 34 mm.

Hab.—Queensland (Tryon); Windsor, N.S.W.

This pretty little species may be readily recognised by the suffused tegmina and wings.

**MELAMPSALTA SPRETA*, sp.nov.

Head black, a pale red spot at base of vertex; front very convex and produced at middle, black, lateral borders narrowly red near base; sides of face black, hairy; rostrum fuscous, red at base, tip reaching middle coxæ. *Pronotum* broader in front than head, lateral borders sinuous; black posterior border narrowly and obsoletely reddish; covered with golden hairs. *Mesonotum* black, lateral edges pale red, cruciform elevation with patches of yellow

hairs. Scutellum black, the posterior edge pale red on each side of middle. *Tegmina* vitreous, broad, rather short, the two ulnar veins joined at base; costa pale red, front edge of apical half fuscous; basal membranes red; veins pale red, terminal portion of longitudinal veins, posterior border of clavus, and lateral borders of basal area, fuscous, the two exterior anastomoses and borders of first apical area infuscated. Wings with veins pale red, the marginal veins fuscous; basal membranes red. *Abdomen* black, hind borders of segments bright orange-red which is almost obsolete narrowly along the middle, the red on the basal segment limited to a narrow short stripe on each side, last segment broadly red; anal appendage black above, the sides pale red. *Body* below: chest black streaked with red; opercula small, distant, oval, sordid tawny with base fuscous, hairy around edges; abdomen pale red, a transverse fuscous band on basal segment which is obsolete on the others, and a row of lateral black spots on each side. *Legs* black, streaked with red. Long. corp. 18 mm.; exp. teg. 52 mm.

Hab.—Tasmania; one male in the National Museum, Melbourne, identified by Walker as *C. basiflamma*.

**MELAMPSALTA FULVA*, sp.nov.

Entirely fulvous, with the following exceptions: two dots on each side of vertex, a central stripe and lateral and posterior borders of pronotum, sordid yellow; costa greenish-yellow at base, thereafter reddish, veins and basal membranes pale red; veins of wings pale red. Long. corp. 22 mm.; exp. teg. 70 mm.

Hab.—New South Wales; one female, in the National Museum, Melbourne.

MELAMPSALTA AÆDE, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 181.

♀. Body black; head a little narrower than pronotum; front very convex, a dark red spot on each side, an interrupted tawny stripe on vertex corresponding to a short tawny stripe on pronotum; rostrum and antennæ black. Hind part of *pronotum* wrinkled. *Mesonotum* with a large tawny spot on each side of

the cruciform elevation. *Tegmina* vitreous, costa black, brown beyond middle which is whitish; veins black, tawny at base. *Abdomen* obconical, much longer than thorax, with a narrow red band; under side and tip red, the latter with two black stripes; oviduct dark red. *Legs* black, knees and tip of tibiæ tawny; fore femora striped with tawny; hind tibiæ tawny, tips black; hind tarsi tawny. Long. corp. 18 mm.; exp. teg. 50 mm.

Hab.—Adelaide, S.A. (Walker).

Closely allied to *M. melete*, in structure of chest, but narrower.

MELAMPSALTA MELETE, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 179.

Body black, rather narrow. *Head* nearly width of pronotum, three red spots along hind border, a red band, a red stripe branching from it to middle ocellus, and three red stripes on the front; front convex, not prominent; rostrum piceous, reaching middle coxæ. *Pronotum* a little narrower in front, bordered with red, the intervening spaces marked with red, near hind angles much excavated on each side. *Mesonotum* red on each side and behind, two slender red stripes which join the cruciform elevation, that also mostly red. *Tegmina* vitreous, veins black, ferruginous towards base, brown towards tips. *Abdomen* obconical, a little longer than thorax, a red band much narrower above than below where it has a row of black dots on each side, and a more slight row in the middle; tip red. *Opercula* black, small, broadly separated. *Legs* red, coxæ and femora black, tips red, front ones streaked with red, fore tibiæ and tarsi and middle tarsi black; middle tibiæ black, base red, a black spot at base of each hind tibia. Long. corp. 18 mm.; exp. teg. 50 mm.

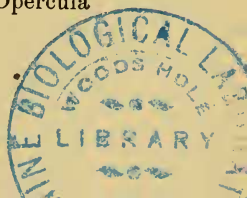
♀. *Abdomen* red beneath, a row of black spots on each side; last segment black, a large red spot on each side; oviduct ferruginous.

Hab.—New Holland; Swan River (Walker).

*MELAMPSALTA ABBREVIATA, Walk.

1862. *Cicada* id., Journ. Ent. p. 303.

Black, short, stout; pronotum with a slender yellow hind border. *Pronotum* with a yellow stripe on each side. *Opercula*



yellow. *Tegmina* vitreous, rather short; veins black, pale yellowish at base. *Abdomen* testaceous, along each side and beneath; hind borders of segments testaceous. *Legs* yellow, striped with black; fore legs black, striped with yellow. Long. corp. 11 mm.; exp. teg. 29 mm.

Hab.—Adelaide (Walker).

MELAMPSALTA LATOREA, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 183.

♂. Body black; head a little narrower than pronotum; vertex with an interrupted tawny stripe, a tawny spot on each side; front lightly convex, with an irregular tawny band behind a small tawny spot and sides of that colour; rostrum dark red, tip black, reaching middle coxæ; antennæ black. *Pronotum* a little narrower in front, tawny along fore border, with six oblique tawny stripes excavated on each side. *Mesonotum* tawny, with four broad, black, obconical stripes, the inner pair much shorter, united towards base, furrows mostly black along hind border. *Tegmina* vitreous, costa dark tawny, piceous beyond middle; veins ferruginous, black towards tips. *Abdomen* obconical, a little longer than thorax, hind borders of segments mostly red; below are two yellow stripes tapering from base, not extending beyond half the length; opercula yellow, medium size, not far apart, more than one-third length of abdomen. *Legs* long, striped with tawny. Long. corp. 15 mm.; exp. teg. 40 mm.

Hab.—New Holland (Walker).

*MELAMPSALTA INCEPTA, Walk.

1851. *Cicada* id., List Hom. Brit. Mus. p. 187.

Body black, slender. *Head* little broader than pronotum, some pale red marks; front prominent, mostly red; rostrum pale red, tip black, reaching middle coxæ and beyond. *Pronotum* marked with pale red. *Mesonotum* marked with pale red, cruciform elevation pale red. *Tegmina* vitreous, long and narrow; costa pale red as far as middle which is pale brown. *Abdomen* oblan- ceolate, longer than thorax, red below except tip, with more or

less red bands which are partly interrupted on the back. *Legs* red, striped with black. Long. corp. 13-15 mm.; exp. teg. 40-45 mm.

Hab.—Adelaide, S.A. (Walker).

**MELAMPSALTA RUBEA*, sp.nov.

Entirely ruby-red, with the exceptions noted; a black spot at base and on each side of front; a large spot on each side of pronotum; apical margins of abdominal segments narrowly yellow; front angles of pronotum prominent; opercula small, short, broad.

In the female the furrows of the pronotum only are fuscous. It is a little larger than the male. Long. corp. 15-17 mm.; exp. teg. 40-42 mm.

Hab.—Brisbane. Q.; N. W. Australia.

There is one pair in our collection from Mr. Tryon. It is a very pretty species, the bright ruby-red colour of the body and veins at once attracting attention. In the Macleay Museum are a large number of this species, from North-west Australia, which, however, are considerably paler than the type.

MELAMPSALTA FORRESTI, Dist.

1882. P Z.S.L. p. 129, pl. 7, fig. 10.

♂. Body above ochraceous. Head with a transverse black fascia between the eyes; rostrum just passes middle coxæ; face longitudinally sulcated, and strongly transversely striate. *Pronotum* with frontal portion of interior edge of lateral margins narrowly, anterior edge of posterior margin broadly, black; two small obscure fuscous spots on anterior margin. *Mesonotum* with the following fuscous markings:—Two central obconical spots, two near lateral margins, one commencing near outer edge of anterior margin; the other joins anterior angles of basal elevation; angles bordered outwardly by an angulated spot, inwardly by a small rounded spot with a central longitudinal line. *Tegmina* and wings pale hyaline, venation ochraceous, becoming darker towards apex. *Abdomen* with a series of pale fuscous transverse

segmental fasciæ. *Body* beneath and legs pale ochraceous. Body above sparingly pilose, apex black. Long. corp. 15 mm.; exp. teg. 41 mm.

Hab.—Peak Downs, Queensland (Distant).

**MELAMPSALTA MACKINLAYI*, Dist.

1882. Proc. Zool. Soc. Lond. p. 130, pl. 7, fig. 13.

Head mostly black above; face yellow, front mostly black. *Pronotum* yellow, two central stripes and furrows black, hind border infuscated; width of head. *Mesonotum* yellow, with four obconical stripes, middle pair much shorter; black; with two black dots behind; width equal to that of head. *Tegmina* vitreous, costa pale yellow exteriorly, edged with black; venation with that of wings, pale yellow. *Abdomen* black, apical borders of segments yellow, interrupted in middle. Below, yellow, a black central stripe on abdomen. Long. 15 mm.; exp. teg. 38 mm.

Hab.—Peak Downs (Distant); Townsville, Queensland.

Closely allied to *M. varians*, Germ., but smaller; head broader, including eyes equal in width to base of pronotum; rostrum just passing intermediate coxæ; opercula small and pale ochraceous; tegmina much shorter, with the costa more rounded.

**MELAMPSALTA GRAMINIS*, sp. nov.

Head yellow, with a broad black stripe between eyes; front convex, prominent, with a broad fuscous stripe; rostrum reaching middle coxæ. *Pronotum* narrower in front than head, sides parallel, hind angles a little prominent; yellow, obsoletely marked with fuscous. *Mesonotum* yellow, with four irregular obconical stripes, middle pair shorter and followed by two dots and a spot in front of cruciform elevation; scutellum yellow. *Tegmina* short, broad, veins yellow, as are those of wings. *Abdomen* yellow, irregularly clouded with fuscous, a row of lateral spots and base of anal appendage the same colour. *Body* below yellow; opercula short, broad, pale yellow, a little distant, apices broadly rounded. *Legs* yellow, lightly marked with fuscous; abdomen

pale yellow, with a fuscous spot on base. Long. corp. 13 mm.; exp. teg. 30 mm.

Hab.—South Australia; several examples, of both sexes, in the Macleay Museum.

**MELAMPSALTA TRISTRIGATA*, sp.nov.

Head sordid red, convex, with several small spots on vertex; front sordid red, with a broad dark central stripe, and a basal yellow spot. *Pronotum* subequal to breadth of head, front angles prominent; sordid red, two broken central stripes, two lateral stripes, stripes along the furrows, and hind angles, fuscous. *Mesonotum* pale red, with four obconical black stripes, the inner pair shorter, behind which are two dots, outer pair excavated. *Tegmina* vitreous, costa red, venation black, basal membranes red. Wings with venation black. *Abdomen* stout, pale red, a central stripe, and a row of lateral dots, base of last segment, and a stripe on each side of anal segment, black. *Body* below: chest red and black variegated; abdomen pale red, a band on base and a large spot on anal appendage black; opercula short, narrow, apical border rounded, pale red with base black. *Legs* pale red streaked with black. Long. corp. 16 mm.; exp. teg. 44 mm.

Hab.—Kuranda, Q. (collected by Dodd); Sydney, N.S.W.; five examples (Coll. G. & F.).

Allied to *M. landsboroughi*, but with different facies.

MELAMPSALTA WARBURTONI, Dist.

1882. P.Z.S.L. p. 129, pl. 7, fig. 9.

Head with vertex black, front ochraceous, with a black central longitudinal line. *Pronotum* ochraceous, a central longitudinal fascia, lateral and posterior margins dark castaneous. *Mesonotum* dark castaneous, with two pale irregular fasciæ on disc, commencing on anterior margin and terminating at anterior angles of cruciform elevation; anterior lateral margins narrowly ochraceous. *Tegmina* and wings pale hyaline, with the venation

ochraceous. *Abdomen* ochraceous. *Body* beneath and legs ochraceous.

The body is sparingly pilose above; rostrum just passes the middle coxæ; the face is deeply sulcated longitudinally, and strongly transversely striate. Long. 15 mm.; exp. teg. 38 mm.

Hab.—Peak Downs, Queensland (Distant).

MELAMPSALTA CONVICTA, Dist.

1892. Ann. Mag. Nat. Hist. (6) ix. p. 322.

Body above brownish-ochraceous. *Head* with frontal margins and area of ocelli black. *Pronotum* with three small obscure black spots near anterior margin, incisures somewhat darker. *Mesonotum* with four obconical black spots, the outermost two long, two rounded spots in front of anterior angles of cruciform elevation, black. *Tegmina* and wings pale hyaline, venation ochraceous; tegmina with postcostal space infuscated. *Abdomen* with transverse fasciæ at anterior segmental margins and a series of lateral marginal spots, black. *Body* beneath brownish-ochraceous; the disc of lateral striations to face, apex of rostrum, and a basal spot to abdomen black; femora pale castaneous. Long. corp. 19 mm.; exp. teg. 56 mm.

Hab.—Norfolk Island (Distant).

*MELAMPSALTA EYREI, Dist.

1882. P.Z.S.L. p. 130, pl. 7, fig. 12.

♂. *Head* black, anterior and lateral margins testaceous, a small central basal ochraceous spot; rostrum just passing middle coxæ; face broad but compressed, broadly and longitudinally sulcated and distinctly transversely striate. *Pronotum* ochraceous, with two large rectangular oblique black spots, commencing on inner edge of lateral margins, and divided on disc by a central longitudinal fascia, widened anteriorly and posteriorly, and marked at base by a small spot. *Mesonotum* with two central obconical spots, and two larger ones near lateral margins, black. *Tegmina* and wings pale hyaline; venation ochraceous, becoming darker towards apex. *Abdomen* with the disc tinged with reddish,

posterior segmental margins bright ochraceous, apical segments irregularly marked with black. *Body* beneath ochraceous; face black, the anterior margins testaceous, the lateral margins ochraceous; inner margin of eyes to base of rostrum, a few scattered and irregular spots on sternum, apex of rostrum, and apical segments of abdomen black. Long. corp. 16 mm.; exp. teg. 44 mm.

Hab.—Peak Downs, Queensland (Distant); Rockhampton (Macleay Mus.); Herberton, Q. (Brisbane Museum); Townsville.

MELAMPSALTA OXLEYI, Dist.

1882. P.Z.S.L. p. 131.

♀. Body above ochraceous. *Head* with frontal margin, lateral margins of vertex, inner margins of eyes, and area of ocelli dark castaneous. The head is broad, and with outer margins of eyes about equals in width base of pronotum; the face is moderately convex, with a deep longitudinal sulcation and strong transverse striations; rostrum reaching the middle coxæ; body sparingly pilose above and more densely so beneath. *Pronotum* with a pale central longitudinal fascia, bordered with black, widest anteriorly and narrowed posteriorly; lateral and posterior margins much paler, inner border of first, and outer third of inner border of the second, narrowly fuscous. *Mesonotum* with two short central obconical spots and two large sublateral and subtriangular spots dark fuscous, and a rounded small fuscous spot at each anterior angle of cruciform elevation. *Tegmina* and wings pale hyaline; tegmina with the venation pale ochraceous, transverse veins at bases of second and third apical areas broadly and darkly infuscated; upper margin of first apical area, outer margin of first to seventh apical areas, the whole of the sixth and greater part of the fifth and seventh areas, and apical external margin dark fuscous. *Abdomen* with segmental bases broadly fuscous, a large fuscous streak on each side of anal appendage. *Body* beneath pale ochraceous; face, rostrum and two small spots at base of ovipositor more or less fuscous. Long. corp. 18 mm.; exp. teg. 48 mm.

Hab.—Peak Downs, Queensland (Distant).

Genus *KANAKIA*, Dist.

1892. Ann. Mag. Nat. Hist. (6) x. p. 62.

Head convexly produced in front, about equal in length to space between eyes, including outer margins of eyes about equal in width to base of mesonotum; eyes large, obliquely directed backwardly; ocelli about equally distant from eyes as from each other; a distinct broad central sulcation from between ocelli to base. *Pronotum* more than twice as broad as long, lateral margins prominently and somewhat acutely angulated, lateral posterior angles moderately amplified. *Mesonotum* large, cruciform elevation well developed, tympana totally exposed and uncovered. *Tegmina* hyaline, eight apical areas; interior ulnar area with anterior margin convex, base and apex subequally broad; ulnar veins distant; basal area twice as long as broad. Wings hyaline, with six apical areas. *Abdomen* in male moderately inflated, beneath grooved before lateral margins; opercula small; anterior femora armed with four spines, basal and median longest and very prominent, other two small, near apex, apical one minute. Face long, somewhat depressed.

Type, *K. typica*, Distant.

**KANAKIA CONGRUA*, sp.nov. (Plate xviii., figs. 6, 6a, 6b).

Head, pronotum, and mesonotum pale green; eyes surrounded with yellow; borders of pronotum with a central stripe pale yellow; mesonotum indistinctly striped with yellow. *Tegmina* with venation red, darker towards apex. Wings with venation red. *Abdomen* moderately inflated in the male; in the female it is obconical, in both sexes longer than the combined length of head and thorax, the sexual organs at the end, not below; yellow, a median stripe and mottled with green; in some lights the apical borders of the segments yellow. *Body* below: chest is green clouded with pale red; opercula triangular, distant, reaching almost to posterior border of metasternum, pale reddish, mixed with green; abdomen red, apical borders of segments bright red. Long. corp. 20 mm.; exp. teg. 52 mm.

Hab.—Kuranda and Brisbane, Q.; one male and two females (collected by Tryon and Dodd). One of the female examples is red.

This may be identical with Walker's *Cicada congrua*, described in the Journal of Entomology (i. p. 303) in 1862 from Moreton Bay, as one of these examples was collected by Mr. Tryon near Brisbane. As no reference has been made to Walker's species in entomological literature since his description was published, its modern generic position is doubtful, and to avoid a possible synonym, the above name is proposed. Mr. Distant has informed us that Walker's type is not in the Pascoe Collection. Doubtless it is lost.

Walker's description is as follows:—"Female. Grass-green. Head short, conical along the fore border; front very convex. Abdomen yellowish-white on each side of the oviduct, which is ferruginous. Tarsi, fore tibiæ, except the base, and tips of posterior tibiæ pale tawny; fore femora incrassated with stout oblique spines. Tegmina vitreous; veins black; tegmina very long; costa white, bordered with black. Length of body 8 lines; of wings 24 lines. Moreton Bay, Queensland. This species has most affinity to *C. infans* of New Zealand."

Genus GLAUCOPSALTRIA, gen.nov.

Vertex a little more than equal to combined width of eyes, a median and two lateral furrows, ocelli distant from base, equidistant from each other and eyes; front strongly arched forward, with a very shallow median sulcus, apex of clypeus acuminate. *Pronotum* broad, short, front border close to eyes, sides parallel to middle, then widely dilated into prominent posterior angles posteriorly truncated; narrower in front than head. *Mesonotum* convex. *Tegmina* broad, vitreous tinged with green and extend half their length beyond apex of abdomen; front border lightly convex, basal area more than twice longer than broad, sides parallel, emitting two ulnar veins a little distant at base; interior ulnar area slightly narrower at apex, widest at middle, exterior ulnar area very broad at apex; costa and radial veins contiguous;

postcostal marginal space distinctly broadened towards apex; clavus narrow; ten or eleven discoidal areas; fourteen or fifteen apical areas. Wings with six apical areas. *Abdomen* obconical, equal in length to head and thorax; last segment of female below deeply emarginate. *Legs* normal, front femora spined below.

Type *G. viridis*, sp.nov.

This genus is closely allied to *Chlorocysta*, but differs in the much broader exterior ulnar area, the less acutely produced front of head, and six apical areas in the wings. Like that genus, there is a diamond-shaped vitreous area in the front margin of the wing, at the origin of the first transverse vein. We have not seen the male.

**GLAUCOPSALTRIA VIRIDIS*, sp.nov.

Head, pronotum, abdomen, and venation of tegmina and wings, and legs, green. Front greenish-yellow, rostrum yellow, reaching middle coxæ. Lateral borders of mesonotum bordered with white silky pubescence which unite on cruciform elevation and extends for some distance on the abdomen. Long. corp. 20 mm.; lat. 8 mm.; exp. teg. 68 mm.

Hab.—Tambourine Mountain, Q. (French); two females (Coll. G. & F.)

Genus *CHLOROCYSTA*, Westw.

1851. Ann. Mag. Nat. Hist. p. 208.

Head a little broader than apex of pronotum; front very convex, prominent, with a longitudinal sulcus; vertex equal in width to diameter of both eyes, ocelli distant from base, equidistant from each other and eyes. *Pronotum* convex, front angles directed below eyes; posterior border very narrow; hind angles a little prominent, lateral borders dentate in front of middle. *Tegmina* vitreous, basal area narrow, more than twice as long as broad; costa and radial vein contiguous; postcostal marginal space broadened towards apex; interior ulnar area with side parallel, apex acuminate; ulnar veins little distant at base; eleven to thirteen long apical areas. *Wings* vitreous, with five

apical areas. *Abdomen* inflated in the male; genital organs near apex. Opercula short, narrow, widely separated. Last ventral segment of female deeply emarginate at middle.

Type *C. vitripennis*, Westw.

SYNOPSIS OF SPECIES.

- 1 (2). Pronotum narrowed from base to apex; ocelli equidistant from each other and eyes; apex of anal area of wings infuscated..... *vitripennis*.
 2 (1). Pronotum with lateral borders parallel; ocelli nearer to each other than to eyes; apex of anal area of wings not infuscated..... *macrula*.

**CHLOROCOYSTA VITRIPENNIS*, Westw. (Plate xix., fig. 6).

1851. Ann. Mag. Nat. Hist. p. 208.

1903. *Cystosoma* id., Frogg., Agr. Gaz. N.S.W. p. 422; and Misc. Pub. No. 643, p. 12.

Head equal in width to front of pronotum, front border strongly arched forward; sordid greenish, front border and marks on each side pale ferruginous; ocelli equidistant from each other and eyes; front convex, with a longitudinal pale ferruginous stripe which broadens towards apex; rostrum tawny, tip black, reaching apices of posterior coxæ. *Pronotum* broader at base than in front, lateral borders dentate in front of middle, posterior angles somewhat broadened, prominent; sordid greenish, the furrows and irregular spots ferruginous, hind border narrow. *Mesonotum* sordid greenish, with four obconical ferruginous stripes, the outer pair longer and reaching hind border, very much excavated; a ferruginous spot in front of cruciform elevation, the anterior branches of that elevation with a yellow spot. *Tegmina* vitreous, costa pale greenish, venation pale ferruginous; ulnar veins distant; ulnar area with sides parallel, apex acuminate. Wings vitreous, venation dark brown, anal area with apex and streaks near base infuscated. *Abdomen* inflated in the male; pale greenish-ferruginous, apical borders of segments darker, a row of ferruginous spots on each side, with golden hairs. *Body* below sordid green, apical borders of abdominal segments darker; mesosternum elevated.

Opercula short, narrow, angulate, pale green, distant from each other. Tympana much exposed, easily seen above and below. *Legs* green, front femora, tibiæ and tarsi with black streak. Long. corp. ♂ 27 mm., ♀ 20 mm.; exp. teg. ♂ 70 mm., ♀ 64 mm.

Hab.—New Holland (Westwood); Kuranda, Q.; Tweed River, N.S.W.

The female is considerably smaller than the male, greenish or reddish, the abdomen is conical, well developed, but not inflated.

These insects frequent the low scrub, and are easily captured by shaking the bushes. The specimens from the Tweed are all green or yellowish, while those from North Queensland are quite brownish. We have never heard the male make any sound.

**CHLOROCYSTA MACRULA*, Stål.

1863. Trans. Ent. Soc. Lond. p. 575.

Pale green. Vertex a little more than double broader than diameter of both eyes; ocelli nearer to each other than to eyes. *Pronotum* with lateral margins broadened behind middle, equal in breadth, in front, to head; hind border narrow, broadened at each lateral angle. *Tegmina* vitreous, venation green, costa yellow or red; ulnar veins very near at base; ulnar area lightly narrowed from base to apex, broadest at base, apex acuminate; eleven long narrow apical areas. Wings vitreous, anal area not infuscated; five apical areas, and a small, vitreous, oval area in the margin at the base of the first transverse vein. *Abdomen* of the male lightly inflated, with a pale line running along the dorsum. Opercula rather broad, short, triangular, pale green, posterior border pale yellow. *Legs* green, tarsi sordid yellow. Long. corp. ♂ 21 mm., ♀ 17 mm.; exp. teg. ♂ 44-50 mm., ♀ 48-56 mm.

Hab.—Moreton Bay (Stål); Tweed River, N.S.W.

The abdomen of the female is equal in length to that of the head and thorax, conical, with a yellow spot on the dorsum, last ventral segment with apical margin deeply emarginate at middle; the ovipositor ferruginous.

We have taken a number of specimens of this species on low shrubs on the Tweed and Richmond Rivers, N.S.W. They are sluggish insects, easily captured in the day-time.

Genus *CYSTOPSALTRIA*, gen.nov.

Head width of pronotum in front, small, long as broad, strongly produced forward to an acute point; front border emarginate on each side; front very prominent, laterally compressed, with a very lightly impressed longitudinal sulcus; eyes small, directed obliquely backward encroaching on front border of pronotum; ocelli distant from base, equidistant from each other and eyes. *Pronotum* convex, much broader at base than apex; anterior border notched to receive eyes; lateral borders neither sinuate nor dentate, widely diverging backward; posterior border not broad, posterior angles somewhat produced. *Mesonotum* small, wrinkled on each side. *Tegmina* opaque, convex exteriorly when closed, and a little longer than abdomen; basal area more than double longer than broad, emitting three ulnar veins, two from apex which are contiguous, and one from posterior border a little in front of middle; interior and middle ulnar areas similar in size and shape, parallel, broadest toward apices; exterior ulnar area acuminate at base and apex, parallel with radial area; costa and radial vein contiguous; postcostal marginal space obsolete; venation of apical two-thirds very irregular, forming innumerable areas. Wings vitreous, with nine apical areas which are multiplied by transverse veins. *Abdomen* inflated, double the combined length of head and thorax, posteriorly conical; genital apparatus below, some distance in front of apex. Opercula short, broad, distant, curved toward middle; posterior inner angle acute. Metasternum elevated at middle. Front *femora* spined below.

Type, *C. immaculata*, sp.nov.

**CYSTOPSALTRIA IMMACULATA*, sp.nov. (Plate xviii., figs. 1-1a).

Immaculate greenish-yellow; eyes streaked with fuscous; apex of clypeus acuminate; furrows on pronotum deeply excavated;

rostrum reaching apices of middle coxæ; tegmina much wrinkled. Long. corp. ♂ 40 mm.; exp. teg. ♂ 90 mm.

Hab.—Queensland; described from one example, a male, presented by Mr. Charles French (Coll. G. & F.).

Genus *CYSTOSOMA*, Westw.

1842. Arc. Ent. p. 92.

1866. Stål, Hemip. Afric. iv. p. 3.

Head small, triangular, as long as wide, front border emarginate on each side, and produced in a foliaceous short process in front of eyes; front prominent, laterally compressed; eyes small, directed obliquely backward; ocelli distant from base, equidistant from each other and eyes. *Pronotum* rather small, convex, much wider at base than at apex; front border straight; lateral borders dentate in front of middle, sinuate, widely diverging backward, front angles produced below eyes; posterior border sinuate, hind angles very prominently produced, almost foliaceous. *Mesonotum* convex, rather small, not covering scutellum. *Tegmina* opaque, convex exteriorly when closed, tips reaching apex of abdomen; basal area more than twice longer than broad; the two ulnar veins approaching each other, almost contiguous, diverging; interior ulnar area with base broader than apex; costa and radial vein contiguous; postcostal marginal space obsolete; apical half with venation irregular, forming many areas. Wings vitreous, with nine apical areas which are sometimes divided by transverse veins. *Abdomen* in male inflated, the genital apparatus below at apex; opercula short, widely separated, posterior inner angle rather acute. Mesosternum somewhat elevated. Front femora spined below.

Type, *C. saundersii*, Westw.

SYNOPSIS OF SPECIES.

- 1 (2). Abdomen enormously inflated; posterior border of pronotum on each side produced backward, covering front angles of mesonotum; interior ulnar vein strongly curved. *saundersii*.
- 2 (1). Abdomen moderately inflated; posterior border of pronotum very lightly sinuate; interior ulnar vein straight *schmeltzi*.

*CYSTOSOMA SAUNDERSII, Westw.

1842. Arc. Ent. p. 92, pl. 24, fig. 1.
1843. Amy. et Serv., Hémip. p. 460.
1851. Walk., List Hom. Brit. Mus. pl. 2, fig. 4.
1852. Scott, Proc. Zool. Soc. p. 14.
1854. Scott, Ann. Mag. Nat. Hist. p. 336.
1860. Bennett, Gatherings of a Nat. in Aust. p. 313.
1883. Wood, Ins. Abroad, p. 732.
1903. Frogg., Agr. Gaz. N.S.W. p. 422; and Misc. Pub. No. 643,
p. 12.

Head yellow or green, with front produced in an obtuse angle. *Pronotum* yellow or green, posterior angles foliaceous, strongly produced outward and backward, covering anterior angles of mesonotum; lateral borders toothed anteriorly. *Mesonotum* yellow or green. *Tegmina* opaque, yellow or green, costa white; interior ulnar vein strongly curved forward; interior ulnar area broadest at middle, apex nearly acuminate; venation irregular on apical half. Wings vitreous, venation greenish-yellow. *Abdomen* yellow or green, enormously inflated, with an obsolete brown percurrent stripe on dorsum. Long. corp. ♂ 48 mm.; ♀ 35 mm.; exp. teg. ♂ 90-100 mm.; ♀ 98 mm.

Hab.—Australia (Westwood); Ash Island, near Newcastle, Glen Innes, Lismore, N.S.W.

The female resembles the male, but is somewhat smaller; and the abdomen, while robust, is not inflated.

This curious insect was originally described from Ash Island, where they were said to be very abundant in several orange orchards, resting in the day and calling with a loud, deep guttural 'r,' continued incessantly with vibrations, just before twilight; and appeared about September. The specimens in all the Museum collections seem to have come from the same locality. We have had it from Glen Innes, where it is said to frequent the willow trees; one specimen was taken on a low shrub on the Ballina Road, near Lismore; another very large male is in the Brisbane Museum Collection.

**CYSTOSOMA SCHMELTZI*, Dist.

1882. Proc. Zool. Soc. Lond. p. 132.

Pea green. Lateral borders of pronotum diverging, not dentate; posterior angles rounded, prominent; hind border lightly sinuate, very lightly produced backward on each side. *Tegmina* pea green, opaque, costa white; interior ulnar vein straight; interior ulnar area gradually narrowed from base to apex, which is obtuse; venation irregular on less than apical half. Wings vitreous, very delicate, veins white. *Abdomen* a little longer than head and thorax, inflated in the male; opercula small, obscurely sinuated on interior and posterior margins. The abdomen of the female is obconical; last ventral segment deeply emarginate at middle, and lightly so on each side; ovipositor ferruginous. Long. corp. ♂ 25 mm.; ♀ 21 mm.; exp. teg. ♂ 62 mm, 70 mm.

Hab.—Gayndah, Queensland (Distant); Townsville, Port Denison, Q.

Genus *TETTIGARCTA*, White.

1845. App. Eyre's Travels in Aust. i. p. 412.

Head very small; front destitute of a longitudinal sulcus, not prominent anteriorly; vertex very narrow, occupied by ocelli; clothed with long black hairs; front ocellus placed vertically on the posterior side of a depression on base of front. *Pronotum* long and broad, produced posteriorly, almost covering mesonotum, convex and wrinkled; lateral borders flattened out, nearly horizontal, front angles directed toward centre of eyes. *Mesonotum* small, posteriorly produced in a triangular process; "cruciform elevation" in the form of a narrow ridge anteriorly broadened in an elevation. *Tegmina* semi-opaque; basal area four or five times as long as broad; two ulnar veins, distant; radial vein anastomoses with first ulnar vein at apex of basal area widely distant from costa, thus forming a broad costal area; interior ulnar area suddenly very much broadened near its apex; with an elevated line across middle; eight apical areas. Wings vitreous, with seven apical areas. Opercula obsolete. Front *femora* with a

tubercle below, not spined. *Body* below: apex of abdomen, sides of mesonotum and head, clothed with long hairs.

Type, *T. tomentosa*, White.

SYNOPSIS OF SPECIES.

- 1 (2). Pronotum with lateral borders, near middle, produced in a sharp tooth on each side; spotted with fuscous *tomentosa*.
 2 (1). Pronotum with lateral borders destitute of teeth; without spots *crinita*.

**TETTIGARCTA TOMENTOSA*, White. (Plate xviii., figs. 2, 2a).

1845. App. Eyre's Trav. Aust. i. p. 413, pl. 4, fig. 4.
 1846. White, Ann. Mag. Nat. Hist. p. 330.
 1847. White, Ann. Mag. Nat. Hist. p. 223.
 1851. Walk., List Hom. Brit. Mus. pl. 2, fig. 2.
 1903. Frogg., Agr. Gaz. N.S.W. p. 420; and Misc. Pub. No. 643, p. 10.

Of various shades of brown, variegated with fuscous; very hairy. *Head* small, with vertex black, bordered on each side with tawny hairs, almost wholly occupied with red ocelli; front tawny, base and a central stripe fuscous; front borders, on each side very short, enclosing base of antennæ; rostrum ferruginous, excepting base, reaching apices of hind coxæ. *Pronotum* very long and broad, front border sinuous; lateral borders rather short, diverging almost directly outward, lightly sinuate; hind border very long, broadly convex, joining lateral borders where they form a strong pointed tooth; posteriorly it nearly covers mesonotum; variously striped and banded with fuscous. *Mesonotum* small, very hairy, produced posteriorly in the middle in a triangular protuberance, on which is the "cruciform elevation" in the form of a narrow ridge which anteriorly broadens in an elevation, black on basal half, apex yellow. *Tegmina* semi-opaque, brown, variously streaked and spotted with ferruginous and fuscous; a broken stripe passes along bases of apical areas, and spot on tip of longitudinal veins, black. Wings pellucid, tinged with brown. *Abdomen* dark ferruginous, apical margins

paler; laterally, anal appendage is yellow. *Body* below light brown, clothed with long white hairs. *Opercula* obsolete. *Legs* yellow, hairy; tibiæ and tarsi mostly black. Long. corp. ♂ 38 mm., lat. 15 mm.; ♀ 42 mm., lat. 18 mm.; exp. teg. ♂ 80 mm.; ♀ 96 mm.

Hab.—Tasmania (White), Launceston, Tas. (Simson).

This insect is also said to come from Gippsland, but it is probable that it has been confounded with the second species described by Distant, as all the specimens we have obtained came from Tasmania. Nothing is known about its habits, but it probably frequents thick forest country.

**TETTIGARCTA CRINITA*, Dist. (Plate xviii., figs. 3, 3a).

1883. Proc. Zool. Soc. Lond. p. 188, pl. 25, fig. 5.

1903. Frogg., Agr. Gaz. N.S.W. p. 420; and Misc. Pub. No. 643, p. 10.

All reddish-brown, without spots. *Tegmina* opaque reddish-brown. Wings vitreous, veins reddish-brown. *Pronotum* with a circular excavation on each side, anteriorly; lateral borders entire, not toothed. *Opercula* obsolete. Long. corp. ♂ 33 mm., ♀ 36 mm.; lat. ♂ 13 mm., ♀ 15 mm.; exp. teg. ♂ 50 mm., ♀ 100 mm.

Hab.—Australia (Distant); Melbourne, Kunell East, Gippsland, Victoria.

Addendum.

CICADA (?) *LOWEI*, Etheridge and Olliff.

1890. Mem. Geol. Sur. N.S.W., Palæontology, No. 7, p. 6, pl. 1, fig. 1.

“*Sp. Char.*—Elongate, moderately robust, the three divisions of the body—head, thorax, and abdomen—very distinct; head rather large and broad, with a lateral tuft of setæ on each side at the base; no antennæ, rostrum, eyes, or ocelli visible; thorax longer than broad, truncate both before and behind, the sides rounded; abdomen nearly one-half longer than the head and

thorax together, slightly constricted at the base, narrowed posteriorly, with seven distinct segments of nearly equal length; wings ample, rather narrow, reaching considerably beyond the extremity of the body, evidently hyaline; forewing with the costa slightly arcuate, rounded at the extremity, the venation chiefly longitudinal, a hindmarginal vein unites the longitudinal veins, and cross-veins divide the apical from the basal area of the wing at a point about its middle; hind wing much shorter than fore wing. Length 16 mm.; length of fore wing 14 mm.; greatest width of abdomen (at second segment) 5 mm."

"*Locality and Horizon.*—Southern boundary Boyce's Selection, Bligh, N.S.W. Lower Mesozoic."

EXPLANATION OF PLATES XVIII.-XIX.

PLATE xviii.

- Fig. 1.—*Cystopsaltria immaculata*, n.sp.; tegmina.
 Fig. 1a. " " " head and thorax.
 Fig. 2.—*Tettigarcta tomentosa*, White; tegmina.
 Fig. 2a. " " " head and thorax.
 Fig. 3.—*Tettigarcta crinita*, Dist.; tegmina.
 Fig. 3a. " " " head and thorax.
 Fig. 4.—*Gaena maculata*, Fabr.; tegmina [upper fig. 4].
 Fig. 4a. " " " head and thorax.
 Fig. 4b. " " " wing [lower fig. 4].
 Fig. 5.—*Platypheura tepperi*, n.sp.; tegmina.
 Fig. 5a. " " " head and thorax.
 Fig. 6.—*Kanakia congrua*, n.sp.; tegmina [upper fig. 6].
 Fig. 6a. " " " head and thorax.
 Fig. 6b. " " " wing [lower fig. 6].
 Fig. 7.—*Melampsalta denisoni*, Dist.; tegmina [upper fig. 7].
 Fig. 7a. " " " wing [lower fig. 7].
 Fig. 8.—*Pauropsalta leurensis*, n.sp.; tegmina [upper fig. 8].
 Fig. 8a. " " " wing [lower fig. 8].
 Fig. 9.—*Tettigia variegata*, n.sp.; tegmina.
 Fig. 9a. " " " head and thorax.
 Fig. 10.—*Huechys vidua*, White; tegmina [upper fig. 10].
 Fig. 10a. " " " head and thorax.
 Fig. 10b. " " " wing [lower fig. 10].
 Fig. 11.—*Pauropsalta emma*; tegmina.
 Fig. 12.—*Melampsalta umbrimargo*, Walk.; tegmina.

PLATE xix.

Fig. 1.—*Thopha saccata*, Fabr.; tegmina.

1-8, apical areas; 9, interior ulnar area; 10, exterior ulnar area; 11, first discoidal area; 12, second discoidal area; 13, third discoidal area; 14, radial area; 15, anal area; 16, basal membrane, above which is the basal area; 17, first anastomosis; 18, second anastomosis; 19, postcostal space; 20, exterior ulnar vein; 21, interior ulnar vein; 22, costa.

Fig. 2.—*Thopha saccata*, Fabr.; wing.

1-6, apical areas; 7, radial area; 8, exterior ulnar area; 9, interior ulnar area; 10, 11, 12, 13 together are the clavus; 13 alone being called the anal area (Walker calls it the flap).

Fig. 3.—*Thopha saccata*, Fabr.; vertical view of head.

Fig. 4.— „ „ dorsal view of head.

Fig. 5.— „ „ ventral view of abdomen, showing opercula.

Fig. 6.—*Chlorocysta vitripennis*, Westw.; tegmina.

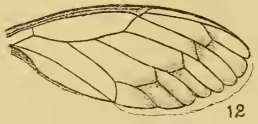
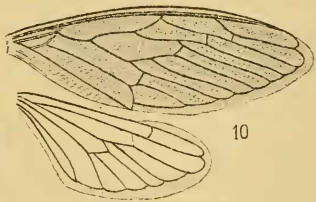
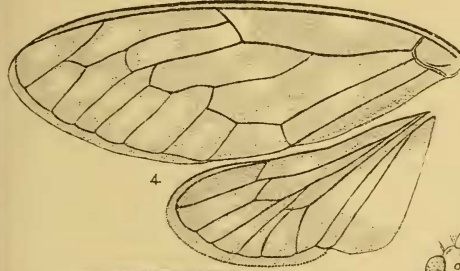
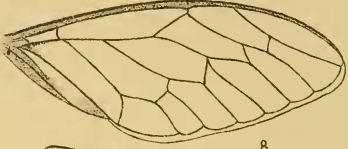
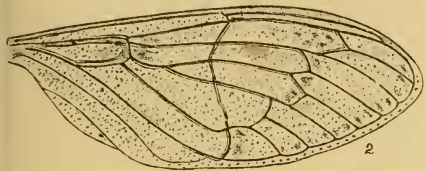
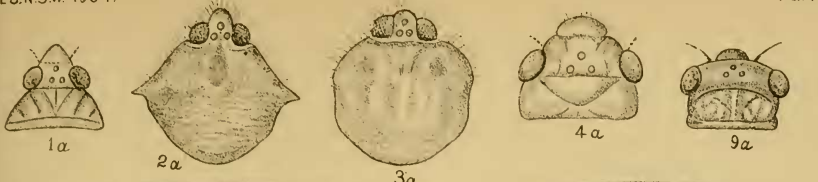
Fig. 7.—*Venustria superba*, n.sp.; tegmina.

Fig. 7a. „ „ head and thorax.

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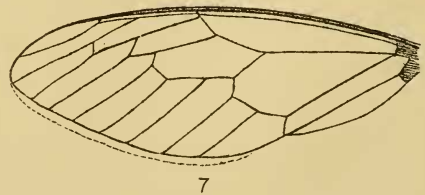
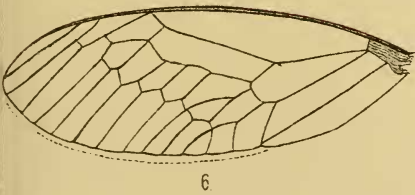
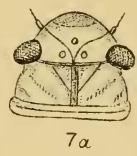
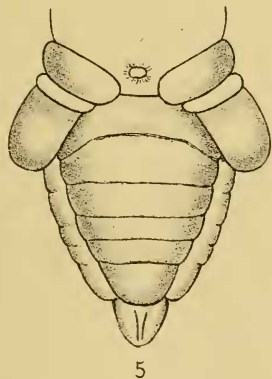
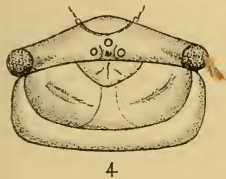
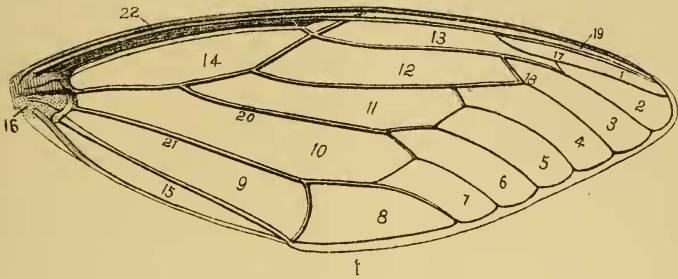
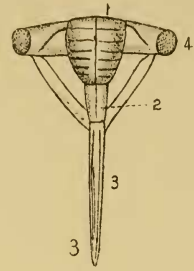
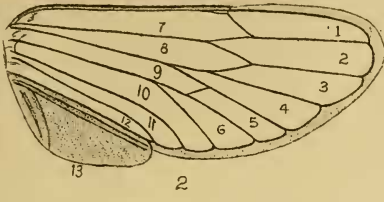
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POSTSCRIPT (*added 25: xi. : 04*).—While this paper has been passing through the press, two papers have appeared, written by Mr. Distant, containing descriptions of two new Australian species:—

Macrotristria nigrosignata, Dist., Trans. Ent. Soc. Lond. 1904, p. 673, pl. 29, fig. 7.—*Hab.* Cossack, W. A.

Henicopsaltria pygmæa, Dist., Ann. Mag. Nat. Hist. (7), 1904, p. 303.—*Hab.* S. W. Australia.